

# Swedish Modal Particles

Analyses of *ju*, *väl*, *nog* and *visst*



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# Abstract

In this dissertation the question whether there are modal particles (MPs) in Swedish is discussed. Viewed from a semantic perspective, this question frequently receives a positive answer for the words *ju*, *väl*, *nog* and *visst*, cf. Aijmer (1978, 1996), Lindström (2008). However, from a generative, syntactic perspective, the very same words are usually analyzed as sentence adverbs, cf. Beijer (2005), Teleman et al. (1999) und Platzack (2009). Due to this syntactic classification, some important differences between MPs and sentence adverbs are overlooked. The goal of this thesis is to present a syntactic analysis of the words *ju*, *väl*, *nog* and *visst*. It will show that these words differ from sentence adverbs not only on a semantic but also on a syntactic level. These differences does not only bring new insight to the discussion of MPs in Swedish, but also sheds some light on other phenomena such as *object shift*.

In the first chapter of this work I will present an introduction to the topic. In the second chapter, previous analyses of MPs in Swedish will be discussed. The focus is on the semantic properties of the MPs, and it will show that there are two different types of MPs: On the one hand the MPs *ju* and *väl*, expressing speaker attitudes toward a proposition, on the other hand the MPs *nog* and *visst*, expressing evidentiality. The semantic properties of the MPs allow us to delimit the MPs from sentence adverbs. Further, initial observations presented in chapter 2 show that the MPs differ from sentence adverbs also with respect to their syntactic properties.

MPs in Swedish also display some properties that are ascribed to MPs in German. Since MPs in German has received much attention in the research, I start my analysis of the syntactic properties of MPs with a detailed discussion the German MPs in chapter 3. The focus will be on properties frequently used to argue in favour of different syntactic analyses of the MPs: on the one hand as syntactic heads, cf. Bayer and Obenauer (2011), Struckmeier (2014), and on the other hand as special types of sentence adverbs, cf. Grosz

(2007), Cardinaletti (2011), Coniglio (2011). The discussion will show that some of the properties of the MPs that are claimed to be a reflex of a special syntactic status, e.g. their inability to carry stress, need not be a reflex of their syntactic nature at all and thus should not be used to draw conclusions about the syntactic status of the MPs. The only property a syntactic analysis of the German MPs must be able to account for is their restriction to the middle field.

In chapter 4 I will discuss the syntactic properties of MPs in Swedish. It will show that first, it is possible to divide the MPs into two distinct types. The MPs *ju* and *väl* belong to one type and the MPs *nog* and *visst* to the other. The former type behaves similar to many MPs in German: they only occur in the middle field, they are unable to carry stress and they cannot be coordinated or modified. The latter type may occur in the middle field as well as sentence initially and can carry word stress.

Using the properties of the MPs in Swedish, I formulate my syntactic analysis of the MPs. The main property of the MPs that is used in this discussion is their position in matrix and embedded clauses. In matrix clauses the MPs *ju* and *väl* are restricted to the middle field, whereas *nog* and *visst* may occur in the middle field as well as in a sentence initial position. This is shown in example (1).

- (1) a. *Peter har ju/väl/nog/visst läst boken.*  
       P. has JU/VÄL/NOG/VISST read book.DEF  
       Peter has read the book, as you know/hasn't he/I guess/it seems.
- b.  $\{ *Ju/*Väl/Nog/Visst \}$  *har Peter läst boken.*  
       JU/VÄL/NOG/VISST has P. read book.DEF  
       Surely Peter has read the book.

As a result of their possible positions in matrix clauses, I assume that the MPs *ju* and *väl* are syntactic heads, whereas *nog* and *visst* are phrasal elements.

The position of the MPs in embedded clauses offers further support for the analysis of the MPs *ju* and *väl* as syntactic heads. In embedded clauses these MPs must appear in the position following the subject DP, cf. (2), a position which is not available to these MPs in matrix clauses. The main difference between matrix and embedded clauses is the movement of the finite verb. Verb movement into the CP-domain only takes place in matrix clauses, and

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the position of *ju* and *väl* seems to be dependent on the verb movement in the clause. I assume that these MP adjoin to the verb (by head adjunction) and as a result thereof appear adjacent to the finite verb in matrix clauses. This verb movement is not present in embedded clauses and thus the MPs occur in their base position in embedded clauses.

(2) Peter säger... (Peter says...)

- a. *att Johan ju/väl/nog/visst antagligen såg Anna*  
 that J.<sub>Subj</sub> JU/VÄL/NOG/VISST probably saw A<sub>Obj</sub>  
*igår.*  
 yesterday.  
 that John MP probably saw Ann yesterday
- b. \* *att ju/väl/nog/visst antagligen Johan såg Anna*  
 that JU/VÄL/NOG/VISST probably J.<sub>Subj</sub> saw A<sub>Obj</sub>  
*igår.*  
 yesterday.

In line with analyses of adverbs in Swedish by Beijer (2005) and of analyses of MPs in German by Grosz (2005), Cardinaletti (2007) and Coniglio (2011), I assume that all MPs occur in functional projections in the left part of the IP-domain. The main difference between my proposal and the above mentioned analyses lies in the position of the MPs within the functional projections. I assume that the MPs *ju* and *väl* occur in the head position of their projections. This enables the MPs to adjoin to and occur immediately to the left of the finite verb in the CP-domain. In embedded clauses, without verb movement of the finite verb, these MPs remain in their base position. In order to account for their ability to co-occur, I assume that these MPs occur in two different projections. The MPs *nog* and *visst* occur in the specifier of a functional projection, which is placed below the projections hosting *ju* and *väl*, cf. figure 1. This linearisation is only visible in embedded clauses, in which no verb movement affects the position of the MPs.

This analysis of the MPs, based solely on their distribution in the clause, allow us to make further predictions about the distribution of MPs in matrix clauses. It is possible to assume that if the MPs *ju* and *väl* (as syntactic heads) adjoin to the finite verb, no phrasal element, such as a subject DP, may intervene between the MP and the verb. The MPs *nog* and *visst*, phrasal elements, do not have to occur adjacent to the finite verb but subject DPs can intervene between the verb and these MPs., cf. (3a) und (3b).

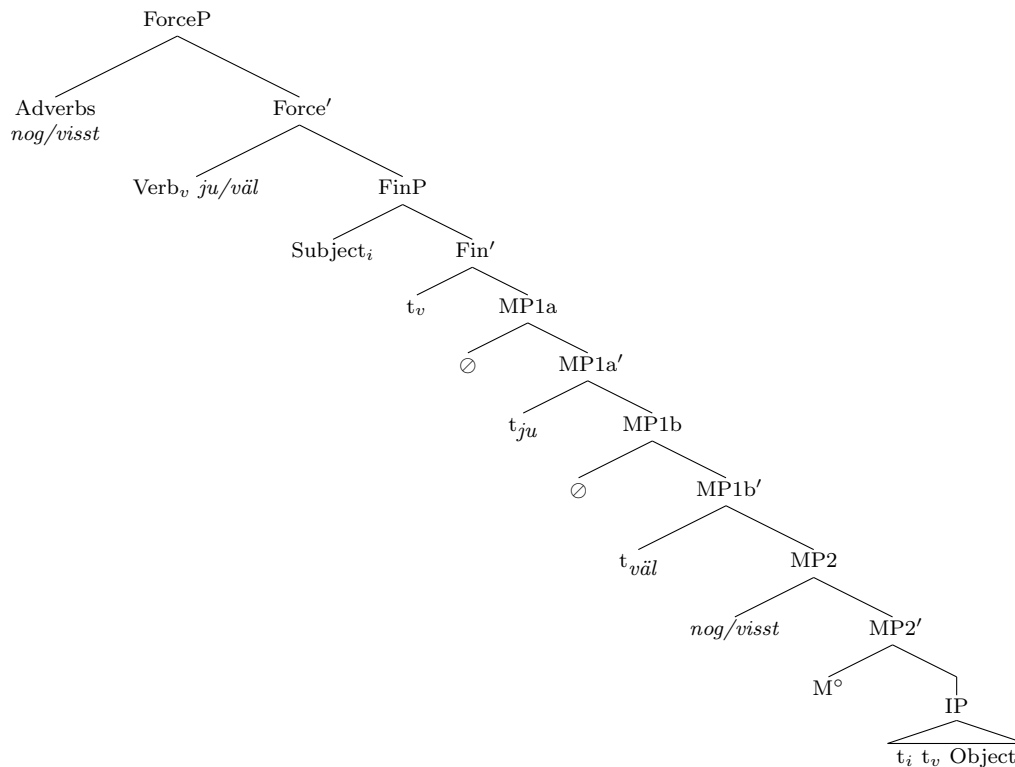


Figure 1: *Matrix clause and MPs*

- (3) a. *Igår läste ju/väl/nog/visst Peter boken.*  
yesterday read JU/VÄL/NOG/VISST Peter book.DEF  
Yesterday, Peter read the book, as you know/hasn't he/I guess/it seems.
- b. *Igår läste Peter \*ju/\*väl/nog/visst boken.*  
yesterday read Peter JU/VÄL/NOG/VISST book.DEF  
Yesterday, Peter read the book, as you know/hasn't he/I guess/it seems.

These predictions are tested in six experiments presented in chapter five. In these experiments the linearisation of MPs and sentence adverbs with respect to subject DPs of different information structural statuses and object pronouns is tested. The two main hypotheses that are tested are (1): There are two types of MPs and their syntactic differences leads to different linearisations in the middle field, and (2) MPs are not sentence adverbs and as a result thereof occur in other positions in the middle field than sentence adverbs. The results of the experiments support the syntactic analyses of the MPs. The linearisation of the MPs with respect to DPs and object pronouns

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in the middle field shows that the two types of MPs differ, and that both types of MPs differ from sentence adverbs.

In the two initial experiments the linearisation of MPs and given and new DPs in the middle field is tested. The results show that DPs very rarely, i.e. ( $< 8\%$ ), occur between the finite verb and the MPs *ju* and *väl*. This data supports the syntactic analysis that these MPs are syntactic heads that adjoin to the finite verb. In contrast, the MPs *nog* and *visst* can, but do not necessarily, precede a subject DP in the middle field. The linearisation DP>MP is present in 30% of the data. The same linearisation, i.e. DP>ADV, occurs in 60% of the data with sentence adverbs. This data shows that the MPs *nog* and *visst* differ from sentence adverbs.

The DPs in the experiments were of one of two information structural statuses, either *given* or *new*. The status did not have any effect on the position of the subject DP. Two follow up experiments show that the information structural categories *focus* or *contrast* did not have the expected effect on the position of the DPs with respect to sentence adverbs of MPs in the middle field. Rather focused DPs and well as contrasted DPs occur preceding the sentence adverbs (60% for focus and 55% for contrast). Thus, the claim that the position following a sentence adverb is a focus position in Swedish, cf. Svenonius (2001) and Holmberg (1999), was not confirmed. However, the difference between MPs and adverbs is also present in these experiments, as only 25% of the DPs precede the MPs *nog* and *visst*.

In two additional experiments the linearisation of MPs, sentence adverbs and object pronouns in the middle field is tested. The results show that there is a difference between sentence adverbs and the two types of MPs with regards to how often they are preceded by object pronouns. Object pronouns precede the MPs *nog* and *visst* to a greater extent than they precede *ju* and *väl*. Further, object pronouns precede sentence adverbs most often. The results also show that the length of a pronoun has an effect on its position in the clause. Monosyllabic pronouns more frequently occur to the left of any MP as well as any sentence adverbs than bi-syllabic pronouns precede these words. The effect of the length of the pronoun is present in all conditions. For the MPs *ju* and *väl* the numbers are: mono-syllabic pronouns occur preceding these MPs in 35% of the data and bi-syllabic pronouns precede these MPs in 20% of the data. For the MPs *nog* and *visst* the numbers are: 63% mono-syllabic and

46% bi-syllabic pronouns occur preceding these MPs. For sentence adverbs the following values are calculated: 74% of the mono-syllabic and 66% of the bi-syllabic pronouns occur preceding the sentence adverbs.

The fact that a phonological feature, i.e. the number of syllables in a pronoun, affects the position of the pronoun, supports the assumption by Hellan and Platzack (1999) that the position of a pronoun is determined by its phonological properties. They assume that stressed pronouns must follow sentence adverbs, whereas unstressed pronouns precede these. The results of the experiments show that also the length of the affects its position.

The results of the last group of experiments are not easily accounted for by a purely syntactic analysis of elements in the middle field. In order to account for the variation in linearisation of MPs and pronouns of different length, one would have to assume that pronouns (without any visible differences), can be of different syntactic statuses, i.e. depending on their position they must be analysed as syntactic heads or as phrasal elements. This however would be a stipulation that is not supported by any independent evidence. This requires further investigation and in chapter 6 the effect of phonology on the linearisation of MPs and object pronouns in the middle field is discussed in greater detail.

A discussion of possible analyses of *object shift*, i.e. the movement of unstressed pronouns into the middle field under certain conditions in main clauses, shows that this phenomenon is most adequately accounted for by a phonological analysis, as proposed by Josefsson (2012) and Erteschik-Shir and Josefsson (2017).

Comparing MPs *ju* and *väl* to object pronouns that undergo object shift some similarities become clear, e.g. both occur in the left part of the middle field and are unstressed. This could lead to the conclusion that they should be analysed in the same way. However, a detailed discussion of the MPs and their phonological properties show that the position of the MPs cannot be determined solely by their phonological properties, but that their syntactic properties also affect their position in the clause. Only the MPs *ju* and *väl* are always unstressed and never appear in the sentence initial position (which is possible for unstressed object pronouns). Further, the position of these MPs is dependent on the movement of the finite verb in the clause, as they adjoin to the finite verb, which is not the case for pronouns. Thus, the position of

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these MPs seem to be the result of a syntactic movement, which in turn is an effect of their syntactic status as heads. The MPs *nog* and *visst* however, display the same syntactic structure as sentence adverbs, but differ from these with respect to their phonological (and semantic) properties.

The detailed discussion of the linearisation of MPs and object pronouns show that syntax as well as phonology has an effect on the linearisation in the middle field. The position of pronouns can be accounted for only by a phonological analysis, but in order to account for the position of the MPs, their syntactic status must also be taken into account. When MPs and pronouns co-occur, the syntactic and phonological properties of both elements must be taken into account.

The goal of this thesis was to answer the question whether the MPs in Swedish are different from sentence adverbs on the level of syntax. It was shown that they do differ from sentence adverbs, and further, that the MPs must be divided into two types. I have presented a syntactic analysis of the MPs that accounts for the two types of MPs as elements of distinct phrasal statuses. The syntactic analysis was tested empirically in six experiments and the results verified the analysis. Further I showed that in order to account for the linearisation of MPs and object pronouns in the middle field, not only syntactic but also phonological properties of all elements must be taken into consideration.





# Zusammenfassung

Diese Arbeit geht der Fragestellung nach, ob es im Schwedischen Modalpartikeln (MPn) gibt. Diese Frage wurde von einer semantischen Perspektive oft bejaend beantwortet für die Wörter *ju*, *väl*, *nog* und *visst*, cf. Aijmer (1978, 1996), Lindström (2008). Von einer generativen, syntaktischen Perspektive werden dieselben Worte jedoch oft als Satzadverbien analysiert, cf. Beijer (2005), Telemann et al. (1999) und Platzack (2009). Dadurch, dass die MPn syntaktisch als Satzadverbien klassifiziert werden, werden syntaktische Unterschiede zwischen Satzadverbien und MPn übersehen. Ziel dieser Arbeit ist es, die Worte, die semantisch als MPn bezeichnet werden, d.h. *ju*, *väl*, *nog* und *visst*, syntaktisch zu untersuchen. Es wird sich zeigen, dass diese Worte sich deutlich von Satzadverbien unterscheiden, d.h. eine syntaktische Unterscheidung zwischen den MPn und Satzadverbien vorliegt. Diese Unterscheidung ist nicht nur für die Diskussion um MPn interessant, sondern auch für anderer Phänomene, wie *object shift* relevant.

In dieser Arbeit wird im ersten Kapitel eine Einführung ins Thema gegeben. Darauf folgt eine Darstellung der vorhandenen Analysen von MPn im Schwedischen im zweiten Kapitel. Hier liegt der Fokus auf deren semantischen Beschreibung. Es wird gezeigt, dass sich zwei Arten von MPn unterscheiden lassen: einerseits *ju* and *väl*, die Sprechereinstellungen zur Proposition ausdrücken, andererseits *nog* und *visst*, die Evidentialität ausdrücken. Alleine diese semantischen Unterschiede erlauben es, die MPn von Satzadverbien zu differenzieren. Jedoch liegt der Fokus dieser Arbeit auf deren syntaktischen Eigenschaften und eine Abgrenzung zu Satzadverbien. Erste Beobachtungen zeigen, dass die MPs sich tatsächlich auch syntaktisch von Satzadverbien unterscheiden. Die schwedischen MPn zeigen zudem einige Eigenschaften auf, die auch den deutschen MPn zugeschrieben werden. Da MPn im Deutschen ein gut erforschtes Thema ist, werden im dritten Kapitel die syntaktischen Eigenschaften von deutschen MPn diskutiert. Hier wird der Fokus auf Eigen-

schaften gelegt, die häufig als Argumente für verschiedene syntaktischen Analysen angeführt werden und die in den syntaktischen Analysen von MPn als Köpfe (vgl. Bayer and Obenauer (2011), Struckmeier (2014)) und MPn als Sonderformen von Adverbien, vgl. Grosz (2007), Cardinaletti (2011), Coniglio (2011) aufgegriffen werden. In der Diskussion zeigt sich, dass einige der Eigenschaften, die oft mit einem bestimmten syntaktischen Status in Beziehung gesetzt werden, z.B. deren Unbetonbarkeit, nicht unbedingt syntaktischer Herkunft sind, d.h. nicht unbedingt dazu geeignet sind, Rückschlüsse auf den syntaktischen Status von MPn zu ziehen. Die Restriktion der MPn zum Mittelfeld scheint die einzige Eigenschaft zu sein, die eine syntaktische Analyse von MPn berücksichtigen muss.

Im Kapitel vier werden die schwedischen MPn diskutiert. Es zeigt sich erstens, dass die schwedischen MPn sich auch hier in zwei Typen einteilen lassen. Die MPn *ju* und *väl* einerseits und die MPn *nog* und *visst* andererseits. Die ersteren MPn verhalten sich ähnlich zu vielen deutschen MPn, indem sie nur im Mittelfeld auftreten können, unbetont sind und weder koordiniert noch modifiziert werden können. Die letzteren dagegen können sowohl im Mittel- als auch im Vorfeld auftreten und sind nicht inhärent unbetont, d.h. können Wortbetonung tragen.

Ausgehend von den Eigenschaften der MPn wird im zweiten Teil des Kapitels die syntaktische Analyse der MPn vorgestellt. Auch hier gilt, dass eine syntaktische Analyse der MPn vor allem auf syntaktische Evidenz aufbauen muss. Die Eigenschaft, auf der ich vor allem die Analyse basiere, ist daher deren Position im Matrix- und eingebetteten Sätzen. In Matrixsätzen können die MPn *ju* und *väl* nur im Mittelfeld auftreten, während *nog* und *visst* auch im Vorfeld vorkommen können. Dies wird im Beispiel (4) gezeigt.

- (4) a. *Peter har ju/väl/nog/visst läst boken.*  
       P.     has JU/VÄL/NOG/VISST read book.DEF  
       Peter has read the book, as you know/hasn't he/I guess/it seems.
- b. {*\*Ju/\*Väl/Nog/Visst*} *har Peter läst boken.*  
       JU/VÄL/NOG/VISST   has P.     read book.DEF  
       Surely Peter has read the book.

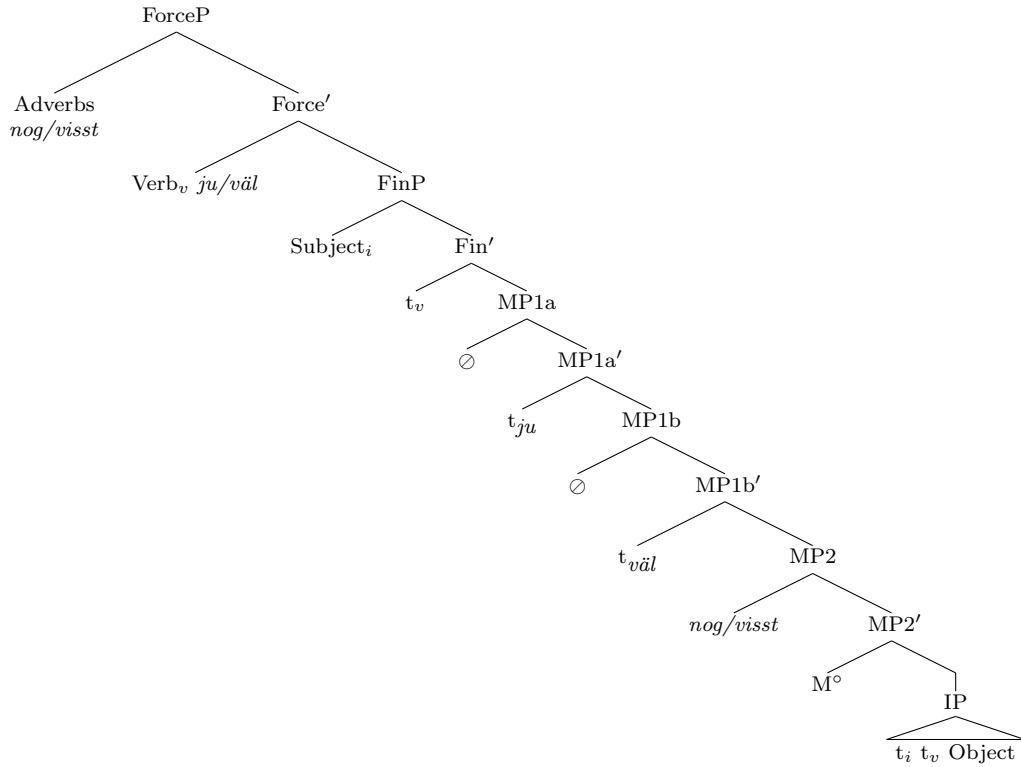
Basierend auf deren Position in Matrixsätzen, d.h. Begrenzung zur Mittelfeld, bzw. Vorfeldfähigkeit, nehme ich an, dass die MPn *ju* und *väl* syntaktische Köpfe sind, während *nog* und *visst* phrasale Elemente sind.

Die Position der MPn *ju* und *väl* in eingebetteten Sätzen bestärkt die Analyse als Köpfe. In eingebetteten Sätzen müssen die MPn nach der DP stehen, siehe Beispiel (5), was in Matrixsätzen nicht möglich ist. Eine der Unterschiede zwischen Matrix- und eingebetteten Sätzen ist das Vorhandensein von einer Bewegung des finiten Verbes. Die Position der MPn scheint daher von der Verbbewegung, welche nur in Matrixsätzen stattfindet, abhängig zu sein. Es wird angenommen, dass diese MPn in Matrixsätzen durch Kopf-Adjunktion an das finite Verb ihre Position direkt dem Verb folgend erreichen, während sie in eingebetteten Sätzen in ihrer Basisposition erscheinen.

(5) Peter säger... (Peter says...)

- a. *att Johan ju/väl/nog/visst antagligen såg Anna*  
 that J.<sub>Subj</sub> JU/VÄL/NOG/VISST probably saw A<sub>Obj</sub>  
*igår.*  
 yesterday.  
 that John MP probably saw Ann yesterday
- b. \* *att ju/väl/nog/visst antagligen Johan såg Anna*  
 that JU/VÄL/NOG/VISST probably J.<sub>Subj</sub> saw A<sub>Obj</sub>  
*igår.*  
 yesterday.

Angelehnt an einer Analyse von Beijer (2005) für schwedische Adverbien und den Analysen von MPn im Deutschen von Grosz (2005), Cardinaletti (2007) und Coniglio (2011), nehme ich an dass, alle MPn in funktionale Projektionen am linken Rand der IP-Domäne erscheinen. Der Unterschied zu allen oben erwähnten Vorschlägen liegt in die Positionierung der MPn in der jeweiligen Projektion. Ich nehme an, dass die MPn *ju* und *väl* im Kopf ihrer jeweiligen Projektion erscheinen. Dadurch müssen sie, wenn das finite Verb in die CP-Domäne bewegt wird, daran adjungieren und erscheinen direkt dem Verb folgend. In eingebetteten Sätzen, in denen keine Verbbewegung stattfindet, bleiben die MPn in ihrer Basisposition. Es wird angenommen, dass diese MPn in zwei unterschiedlichen Projektionen erscheinen, um eine Ko-Okkurrenz zu ermöglichen. (Solch eine Ko-Okkurrenz ist selten, jedoch möglich). Die MPn *nog* und *visst* erscheinen in der Spezifikator einer funktionalen Projektion unterhalb der Projektionen, die *ju* und *visst* beinhalten, siehe Darstellung in Abbildung 2. Diese Reihenfolge der Projektionen ist nur in Nebensätzen sichtbar, in denen keine Verbbewegung stattfinden, welche die Position der MPn beeinflussen können.

Abbildung 2: *Matrix clause and MPs*

Diese Analyse der MPn, basierend auf deren Distribution im Satz, erlaubt es, weitere Vorhersagen über die Distribution von MPn in Matrixsätzen zu machen. Es kann angenommen werden, dass, wenn die MPn *ju* und *väl* syntaktische Köpfe sind, welche an das finite Verb adjungieren, kein phrasales Element, z.B. ein DP, zwischen dem Verb und MP erscheinen dürfte. Die MPn *nog* und *visst*, selber phrasale Elemente, müssen nicht adjazent zu dem finiten Verb erscheinen, sondern DP-Subjekte im Mittelfeld können zwischen dem finiten Verb und diesen MPn erscheinen, vgl. Beispiele (6a) und (6b).

- (6) a. *Igår läste ju/väl/nog/visst Peter boken.*  
 yesterday read JU/VÄL/NOG/VISST Peter book.DEF  
 Yesterday, Peter read the book, as you know/hasn't he/I guess/it seems.
- b. *Igår läste Peter \*ju/\*väl/nog/visst boken.*  
 yesterday read Peter JU/VÄL/NOG/VISST book.DEF  
 Yesterday, Peter read the book, as you know/hasn't he/I guess/it seems.

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Diese Voraussagen werden im Kapitel fünf in sechs Experimenten überprüft. In den Experimenten wird die Linearisierung von MPn und Satzadverbien im Bezug auf sowohl Subjekt-DPn mit unterschiedlichem informationsstrukturellen Status, als auch Objektpronomen getestet. Die zwei Haupthypothesen sind (1): Es gibt zwei Arten von MPn und deren syntaktischen Unterschied wird zu unterschiedliche Linearisierungen im Mittelfeld führen, und (2: MPn sind keine Satzadverbien und daher werden die MPn nicht in die selben Positionen wie die Satzadverbien im Mittelfeld auftreten. Die Ergebnisse der Experimente unterstützen die syntaktische Analyse der MPn. Es zeigt sich, dass sich zwei Typen von MPn unterscheiden, d.h. *ju*, *väl* einerseits und *nog*, *visst* andererseits. Ferner unterscheiden sich beide Typen von MPn stark von den getesteten Satzadverbien. Dies zeigt sich in deren Linearisierung sowohl in Bezug auf DPn als auch auf Objektpronomen im Mittelfeld.

In den ersten zwei Experimenten wird die Linearisierung von MPn und gegebenen/neuen DPn im Mittelfeld überprüft. Es zeigt sich, dass DPn seltenst (< 8%) zwischen dem finiten Verb und dem MPn *ju* and *väl* erscheinen können. Dadurch wird die syntaktische Analyse, dass diese MPn syntaktische Köpfe sind, die an das finite Verb adjungieren, unterstützt. Die MPn *nog* und *visst* dagegen, können, müssen aber nicht, einer DP im Mittelfeld folgen. Die Reihenfolge DP>MP ist in Durchschnitt in 30% der Daten vorhanden. Am häufigsten ist diese Reihenfolgen, d.h. DP>ADV aber mit Satzadverbien (im Durchschnitt 60%). In dieser Hinsicht unterscheiden sich die MPn *nog* und *visst* deutlich von den Satzadverbien.

In diesen Experimenten haben die DPn entweder der informationsstrukturellen Status *gegeben* oder *neu*. Diese Faktor hatte keinen signifikanten Effekt auf die Position der DPn. Zwei Nachfolgeexperimente zeigen auch, dass die informationsstrukturellen Status *Fokus* oder *Kontrast* nicht den erwarteten Effekt auf die Position der DPn in Bezug auf Satzadverbien oder MPn haben. Fokussierte DPn erscheinen eher vor den Satzadverbien als nach diesen (etwa 60% - 40%) während die Verteilung der kontrastierten DPn etwa 55%-45% ist. Die Behauptung in der Literatur, vgl. Svenonius (2001) und Holmberg (1999), dass die Position nach einem Satzadverb eine Fokusposition ist, kann somit nicht bestätigt werden. In diesen Experimenten findet sich aber die selbe Unterscheidung zwischen den Satzadverbien und den MPn *nog* und *visst* im Bezug auf die Position von DPn wieder. Unabhängig von

deren informationsstrukturellen Status, gehen DPn nur in etwa 25% der Fälle MPn voran, d.h. deutlich seltener als vor den Satzadverbien.

In zwei weiteren Experimenten wird untersucht, wie die Linearisierung von MPn, Satzadverbien und Objektpronomen im Mittelfeld ist. Es zeigt sich, dass Pronomen den zwei Typen von MPn unterschiedlich oft vorangehen. Objektpronomen treten seltener vor den MPn *ju* und *väl* auf als vor den MPn *nog* und *visst*. Objektpronomen gehen auch insgesamt öfter den Satzadverbien vor. Es zeigt sich auch, dass die Länge eines Objektpronomens dessen Position im Satz beeinflusst. Einsilbige Pronomen treten eher links von beiden Typen von MPn als auch vor Satzadverbien auf. Der Effekt von Länge des Objektpronomens ist in allen Bedingungen signifikant. Für die MPn *ju* und *väl* sind die Zahlen folgendermaßen: mono-syllabische Pronomen treten in 35% der Fälle vor den MPn auf und bi-syllabische Pronomen in 20% der Fälle. Für die MPn *nog* und *visst* sind die Zahlen wie folgt: 63% mono-syllabische und 46% bi-syllabische treten vor den MPn auf. Für Satzadverbien ergeben sich in beiden Experimenten folgende Durchschnittswerte: 74% der mono-syllabischen Pronomen und 66% der bi-syllabischen Pronomen treten vor den Satzadverbien auf. Insgesamt zeigen sich Unterschiede zwischen den beiden Typen von MPn und Satzadverbien, aber auch zwischen den zwei Arten von Pronomen.

Die Tatsache, dass eine phonologische Eigenschaft, d.h. die Silbenanzahl des Pronomens, eine Rolle für deren Position im Satz spielt, unterstützt die Annahme von Hellan and Platzack (1999), dass die Position der Pronomen von deren phonologischen Eigenschaften abhängen. Sie nehmen an, dass betonte Pronomen Satzadverbien folgen müssen, während unbetonte davor erscheinen. Die Ergebnisse zeigen, dass auch die Länge des Pronomens eine Rolle für deren Position spielt.

Die Ergebnisse von den Experimenten mit Pronomen und MPn lassen sich nur schwer durch eine rein syntaktische Analyse erklären. Es müsste angenommen werden, dass die Pronomen, ohne sichtbare Unterschiede, nur Anhand von deren Position Elemente mit unterschiedlichem syntaktischen Status sind, d.h. je nach Distribution Köpfe oder phrasale Elemente sind. Nur so kann die Variation im Position der Pronomen und MPn syntaktisch erklärt werden. Dies wäre jedoch eine Annahme, die durch keine anderen unabhängigen Daten gestützt werden kann. Im sechsten Kapitel wird daher der Einfluss

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der Phonologie auf die Linearisierung von MPn und Objektpronomen im Mittelfeld besprochen.

In einer Diskussion über *object shift* im ersten Teil von Kapitel sechs zeigt sich, dass dieses Phänomen durch eine phonologische Analyse die zutreffendste Erklärung erreicht, wie von Josefsson (2012) und Erteschik-Shir and Josefsson (2017) beschrieben. Obwohl die MPn *ju* und *väl* und Objektpronomen, die *Object Shift* untergehen, einige Gemeinsamkeiten aufweisen, d.h. an linken Rand des Mittelfelds stehen und unbetont sind, und dies zu einer einheitlichen Analyse der beiden führen könnte, zeigt eine anschließende Diskussion über MPn und deren phonologischen Eigenschaften, dass die Position von MPn nicht ausschließlich auf deren phonologischen Eigenschaften zurückgeführt werden kann, sondern syntaktisch motiviert sein muss. Nur die MPn *ju* und *väl*, stets unbetont, können nie im Vorfeld erscheinen (obwohl dies für Objektpronomen der Fall ist). Ferner ist die Position von den MPn von der Verbbewegung im Satz abhängig, dadurch dass die MPn an das finite Verb adjungieren, was nicht für die Pronomen der Fall ist. Daher scheint die Position der MPn *ju* und *väl* rechts vom finiten Verb in Matrixsätzen das Ergebnis einer syntaktischen Bewegung zu sein, die sich aus deren syntaktischen Status als Kopf ergibt. Die MPn *nog* und *visst* sind phrasale Elemente, aber unterscheiden sich aufgrund von phonologischen (und semantischen) Eigenschaften von Satzadverbien. Die detaillierte Diskussion über die Linearisierung von MPn und Objektpronomen im Mittelfeld zeigt, dass sowohl Syntax als auch Phonologie einen großen Einfluss darauf haben. Für die Pronomen genügt eine rein phonologische Analyse, um deren Auftreten zu erklären, aber für die MPn müssen auch deren syntaktische Eigenschaften berücksichtigt werden. Wenn MPn und Pronomen zusammen auftreten müssen sowohl syntaktische als auch phonologische Eigenschaften beider Elemente berücksichtigt werden.

Die Zielstellung dieser Arbeit ist es, die Frage zu beantworten, ob MPn im Schwedischen syntaktisch Satzadverbien sind. Es wurde gezeigt, dass sie sich syntaktisch von Satzadverbien unterscheiden und sich ferner in zwei getrennte Typen von MPn unterteilen lassen. Hierzu wurde eine syntaktische Analyse erarbeitet, die diese Unterscheidung in dem phrasalen Status der MPn widerspiegelt. Die syntaktische Analyse wurde durch sechs Experimente empirisch bestätigen. Ferner wurde gezeigt, dass, um die Linearisierung von Elementen im Mittelfeld, am Beispiel von MPn, DPn und Objektpronomen im Mittelfeld,

erklären zu können, nicht nur syntaktische Argumente herangeführt werden können, sondern auch phonologische Aspekte berücksichtigt werden müssen.



# 1. Introduction

Modal particles (hereafter MPs) are a small group of words which have received much attention in the linguistic research in recent years. There is an abundance of literature related to their semantic as well as syntactic properties, especially for MPs in German. MPs are distinguished from other word classes by their semantic, phonological and syntactic properties. In Swedish, the topic has not received nearly as much attention. From a semantic point of view, the four words *ju*, *väl*, *nog* and *visst*, are frequently analysed as MPs as they are claimed to be expressions of speaker attitudes and evidentiality, cf. Aijmer (1978, 1996), Östman (1978), Lindström (2008). From a syntactic perspective, however, these words are usually analysed as sentence adverbs, and little attention is given to their peculiar syntactic properties. In this work, I will present an extensive account of *ju*, *väl*, *nog* and *visst* with a focus on their syntactic properties, but also including their semantic and phonological properties. Based on the semantic observation that there are MPs in Swedish, I will argue that it is necessary to distinguish MPs also on a syntactic level.

The semantic discussion will show that the MPs do not form one uniform group of words, but rather seem to divide into two types: one type relates to speaker attitudes whereas the other type expresses evidential meaning. A discussion about their syntactic properties will show that they also differ on the level of syntax, i.e. the MPs fall into two types with respect to their syntactic properties. As a consequence thereof, I will propose a syntactic analysis of the MPs as two distinct types. I will argue that the MPs *ju* and *väl* are syntactic heads whereas *nog* and *visst* are phrasal elements, all the MPs occurring in positions in the left part of the IP-domain above any sentence adverbs.

A detailed syntactic analysis of MPs which distinguishes them from sentence adverbs is not only of interests for the discussion about MPs, but also for other domains of Swedish syntax. In Swedish, sentence adverbs are of importance in

syntactic discussions in various topics. Sentence adverbs serve as an indicator of movement in the clause, e.g. of verb movement in embedded clauses as well as an indicator of *object shift*, i.e. the movement of object pronouns in main clauses. I will show that MPs differ to a great extent from sentence adverbs, especially with respect to in which positions in the clause they occur. As a consequence of the syntactic differences between MPs and sentence adverbs, it is of uttermost importance to distinguish between sentence adverbs and MPs on the level of syntax in order to avoid any false conclusions when discussing other phenomena such as *object shift*.

In addition, discussing not only the syntactic but also phonological properties of MPs, shows how the two domains interact in order to determine the linearisation of elements in the middle fields. A discussion of the linearisation of MPs and pronouns in the middle field including both syntactic and phonological aspects also sheds new light on the topic of *object shift*. It supports previous analysis by Josefsson (2012) of object shift as a phonological operation, and shows that the influence of phonology on the linearisation is greater than often assumed in Swedish.

The structure of the thesis is as follows: In chapter 2, I will present a range of characteristics of modal particles frequently discussed in the literature of Swedish. The focus will be on their semantic properties. A discussion of the previously proposed meanings of the MPs will show that the multiple meanings often ascribed to each particle are not necessary, but it can be argued that they each express one meaning. Taking pragmatic aspects into account, such as the context of utterances, allow us to account for their seemingly multiple meanings. Based on their semantics, I will propose that MPs fall into two types: one type expressing speaker attitudes and one expressing evidential marking. In the second half of this chapter I will also discuss the initial syntactic and phonological observations of MPs existing in the literature. On the basis of these brief characterisations, it will show that the two types of MPs can be distinguished on the level of syntax as well.

In chapter 3 different syntactic theories of modal particles in German will be presented. The chapter starts with a discussion of the syntactic and phonological properties ascribed to MPs used to argue in favour of various syntactic analyses of the MPs. Reviewing the properties allow for a discussion of which properties a syntactic theory needs to account for. It will show that some

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of the properties claimed to be related to the syntactic status of MPs can be accounted for based on the semantic and phonological properties of MPs. In the second half of this chapter I will discuss two influential approaches to the syntax of German MPs, on the one hand MPs as heads by Bayer and Obenauer (2011) and on the other MPs as syntactically deficient elements, cf. Grosz (2007), Cardinaletti (2011), Coniglio (2011).

In chapter 4, I will discuss whether any of the previously discussed analyses of MPs in German can be applied to the Swedish MPs. First I will discuss in how far the properties described for German MPs apply to the Swedish MPs. This discussion of these properties will strengthen the assumption that there are two types of MPs in Swedish. It will also show that none of the theories developed for German can be applied to the Swedish data, but some modifications are needed. In the second half of this chapter I will present my syntactic proposal. It is developed mainly on the basis of the distribution of MPs in matrix and subordinate clauses, e.g. such as the ability to occur in a sentence initial position, as well as their interaction with verb movement.

Based on the syntactic analyses some detailed predictions about the linearisation of MPs in the middle field of main clauses follow, and these will be empirically tested in chapter 5. The main attention of these experiments will be on the linearisation of MPs, DPs, pronouns and sentence adverbs in the middle field of main clauses. The position of MPs and sentence adverbs will be compared in relation to full DP nouns (subjects) and object pronouns. The data will show that the MPs and sentence adverbs occur in different positions with respect to both DPs and pronouns. Further it will be examined how the information structural status of the DPs affect their position in the middle field with respect to sentence adverbs as well as MPs. The results of the experiment will support my syntactic analyses but also lead to some new insights. It will show that a purely syntactic analysis of the linearisation of elements in the middle field is not viable but that phonological effects on linearisation also must be taken into account.

In chapter 6, a potential phonological account of the findings of the experiments will be discussed. The focus will be on the linearisation of MPs, adverbs and object pronouns, i.e. the phenomenon of *object shift* and its interaction with MPs and sentence adverbs. In this chapter I will also include a discussion of various analyses of object shift. It will show that the phe-

nomenon can be accounted for solely by a phonological analysis. However, it will show that certain properties of the MPs cannot be accounted for only by phonology, but need a syntactic account. Thus, my syntactic proposal for the MPs is once again strengthened. The discussion also shows that the overall ordering of MPs, adverbs, pronouns and DPs is subject to syntactic as well as phonological constraints, i.e. that it is necessary to pay attention not only to syntax but also to phonology and its influence in order to account for the linearisation of elements in clauses.

In chapter 7, I will summarize the findings of this thesis and discuss some implications of the results of my studies for further research on the topic.

## **2. Properties of modal particles**

### **2.1. Introduction**

There are two dominating ways to define modal particles (MPs). One is to take a semantic or pragmatic perspective, the other is a syntactic perspective. The semantic/pragmatic perspective is the one taken more frequently, with the result that there is an abundance of semantic analyses of the MPs. In the literature on Swedish MPs, the focus is mainly on their pragmatic effect and their usage with only few statements about their syntactic properties, see Aijmer (1978, 1996), Lindström (2008) and Alm (2012). These analyses will form the basis for the discussion of the semantic and syntactic properties of the Swedish MPs in section 2.2 and 2.3. In section 2.2, I will focus on the semantic and pragmatic properties of the Swedish MPs and in section 2.3, I will focus on their phonological and syntactic properties. The result of this discussion will show that, first the Swedish MPs display semantic, syntactic and phonological properties which set them apart from other word classes, such as sentence adverbs, on all these levels. Second, it shows that the Swedish MPs do not belong to one uniform group of words but must be analysed as two different types of MPs.

### **2.2. Semantic description of the MPs**

In the literature on modal particles in German, it has long been observed that MPs do not affect the truth conditional meaning of their host utterance but express speaker attitudes, cf. Weydt (1969), Thurmair (1989) among others. According to Aijmer (1978), the same holds for the Swedish MPs as they express speaker attitudes and, in addition to this, also evidentiality. The semantic contribution of the MPs is the most prominent semantic difference between the MPs and sentence adverbs, i.e. adverbs modify propositions whereas the

MPs express speaker attitudes to the utterance, see Östman (1978).

The most thorough description of the Swedish MPs, *ju*, *väl*, *nog* and *visst* so far is found in the work by Karin Aijmer, e.g. Aijmer (1978, 1980). Aijmer (1996) presents the most extensive description of the Swedish MPs based on analyses of translations of MPs in primarily fictional text from Swedish to English<sup>1</sup>. The study offers great insight into the usage of the MPs but as a result of the variety of translations, she postulates multiple meanings for each particle. In the following sections, much of her findings will be discussed. The goal in this section is to unify the multiple meanings and present one meaning for each MP that can account for the multiple meanings previously ascribed to each particle. This ‘abstract’ meaning of each particle will be embedded in an analysis of the Swedish MPs as modifiers of the illocutionary force of speech acts, as has been done for German MPs by Jacobs (1991), Waltereit (2001), Zimmermann and Egg (2012), among others.

The MPs *ju* and *väl* will be analysed as relating to the speaker’s attitude towards the proposition. *visst* and *nog* are analysed as evidential markers indicating the source of evidence the speaker has for a proposition.

### 2.2.1. *ju*

The primary function of the modal particle *ju* is to indicate that the proposition is known to the speaker and the addressee, cf. Aijmer (1978, 1996), Lindström (2008) and as shown in (7). The statement is of such a nature that it is plausible to assume that the proposition “*It is your birthday*” is known to the speaker as well as to the addressee, i.e. it can be expected that the addressee knows that it is his birthday. Such an utterance with *ju* can be used to bring backgrounded knowledge to the foreground of the discussion, i.e. to remind the hearer of information that is already known, e.g. in order to set the topic of a following conversation or to justify a preceding utterance.

(7) Context: Person A inviting person B to a birthday dinner.

A: *Det är ju din födelsedag idag.*  
It is JU your birthday today  
It is, as you know, your birthday today.

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<sup>1</sup>Data from the English-Swedish parallel Corpus (ESPC), supplemented with an additional number of fictional texts

Further, according to Aijmer (1996), *ju* has two additional meanings. *ju* can also be used to stress the truth of an assertion, or to express that (some unspecified type of) evidence exists for the proposition. No examples with contexts are given in Aijmer (1996), but the postulation of multiple meanings is based on different translations of MPs into English. When *ju* is translated as *just* or *really*, Aijmer assumes that *ju* expresses a stressing of the truth of the proposition, and when *ju* is translated as *since* or *because*, *ju* is an evidential marker.

In example (8) I have constructed a context for an occurrence of *ju* which according to Aijmer (1996) demonstrates the evidential meaning of *ju*, i.e. that the addressee is the source of the evidence. The proposition under discussion is the utterance “*You are my daughter.*”. This proposition is known to A and B, i.e. according to Aijmer (1996) in this context *ju* indicates that the hearer is appealed to as the source of information as the hearer also knows if *p* is true or not, cf. Aijmer (1996).

- (8) Context: Mother (A) and daughter (B) discuss their interest in gardening.

A: *Det är inte konstigt att du ärvt mitt intresse för*  
 it is not strange that you inherited my interest for  
*trädgårdsarbete. Du är ju min dotter.*  
 gardening you are JU my daughter

It is not surprising that you have inherited my passion for garden-  
 ing. You are, as you know, my daughter.

I assume that both these additional meanings, marking evidentiality and stressing the truth, can be derived from the primary meaning of *ju*. If *ju* marks that the proposition is known to both speaker and addressee, then the reading that *ju* is used in order to stress the truth of the proposition follows, as known information also must be taken to be true as far as the interlocutors know. At the very least, it is information that the speaker and addressee have agreed on accepting as true. Further, stating that *ju* marks that there is evidence for the proposition, and that the source of this evidence is the addressee, has the same effect as indicating that the information is known to the speaker and addressee, i.e. both these additional meanings are possible side effects of the core meaning of the MP.

The primary meaning of *ju*, i.e. marking that information is known to the

speaker and the addressee, is the same meaning as is frequently postulated for the German MP *ja*, c.f. Thurmair (1989) and other sources stated therein. One formal account of how *ja* marks known information is given by Repp (2013). She analyses *ja* and *doch* as markers of the common ground status of the proposition, i.e. marking that the proposition is in the common ground of the speaker and addressee. In this approach, common ground does not only contain shared linguistic information, but also comprises the physical context of the speaker and the addressee as well as world knowledge. Assuming that not only previously exchanged, i.e. explicitly communicated, information is part of the common ground, but that it also comprises world knowledge and extralinguistic information present in the context, can account for contexts in which utterances with *ja* can occur. I will assume the same formal meaning for the Swedish counterpart *ju*, i.e. that *ju* marks known information by expressing that the proposition is part of the common ground of the speaker and addressee.

Such a definition of *ju*, combined with the assumption that not only communicated but also extralinguistic information is part of the common ground of speaker and addressee, allows us to account for the different contexts in which an utterance with *ju* is felicitous: (i) When the speaker and the addressee both know the proposition to be true and it is an established fact that this is shared knowledge, or (ii) when both speaker and addressee believe *p* to be true and it is possible to assume that S and A are mutually aware of this, i.e. *p* is a part of their shared extralinguistic information (by physical context or by world knowledge).

One example of a felicitous usage of *ju* is presented in (9). In this example *p* can be shared knowledge, i.e. both speaker and the addressee know about Ann's qualities as a singer, because (i): this information is part of their shared propositions, i.e. they have talked about it earlier, or (ii): the speaker and the addressee attend the same concert, possibly hearing Ann sing for the first time, and are both in a position to evaluate her singing and arrive at the conclusion that it is good, i.e. in the latter case *p* is shared information given by the physical context.

- (9) a. *Anna har ju en väldigt fin sångröst.*  
 Anna has JU a very nice singing voice  
 Ann has a very nice singing voice, as you must know.



Further, in (10) it is demonstrated that *ju* can be used if the proposition is world knowledge. In the context of (10) there is no previously shared linguistic information of S and A, as it is uttered discourse initially, but *ju* can still be used. The proposition must in this case be regarded to be given by world knowledge of S and A, and as such is (possibly) known to both S and A.

(10) As an initial statement of a presentation about Germany.

a. A *Berlin är ju Tysklands huvudstad.*

B. is JU Germany.POSS capital

As you all know, Berlin is the capital of Germany.

However, for the German MP *ja*, a wider meaning has been postulated. Lindner (1991), Kratzer and Matthewson (2009) and Kaufmann and Kaufmann (2012) claim that it is sufficient to assume that *ja* marks uncontroversial information, not necessarily known to the addressee prior to the uttering of the proposition. Kratzer (2006) states that the meaning of *ja* is to mark shared knowledge or information that is verifiable on the spot. As a result *ja*, can be used in utterances such as in (11).

(11) *Du hast ja ein Loch im Ärmel.*

you have JA a hole in sleeve

There is, as you must know, a hole in the sleeve of your pullover.

Further, with reference to (11), it is sometimes assumed that *ja* expresses surprise or unexpectedness. This would be the opposite of the assumed meaning of *ja*, i.e. to mark known information. However, in examples like (11) it is possible to regard *p* as known information, as indicated by *ja*, along following the line of argumentation: one would expect A to know what he or she is wearing, i.e. also be aware of the fact that the sweater is torn. As a result an expression with *ja* is felicitous. The surprise effect often claimed to be present in this example can be analysed as an expression of surprise about the fact that A wears a torn sweater, even though A (by context) is aware of this. Thus, the surprise reading of the utterance is not necessarily a result of the presence of *ja*, but springs from the choice of A to wear a torn sweater.

Kaufmann and Kaufmann (2012) also argue that *ja* is felicitous in absence of conflicting information, i.e. also in discourse initial utterances, such as in (12a) and (12b). However, in these examples the contexts could be such that the proposition is known to the addressee. In (12a) the identity of the

addressee certainly should be known by the addressee (and obviously is known to the speaker, as he asserts this), and in (12b) from Kaufmann and Kaufmann (2012, 212), the proposition might be a part of the common ground of speaker and addressee by being part of their physical context.

(12) Context: Discourse initial utterances

- a. *Sie sind ja Herr Meyer!*  
you are JA Mr Meyer.  
You are Mr Meyer, as you must know!
- b. *Oh, da ist ja Peter!*  
Oh, there is JA Peter.  
There is Peter, as you must know!

It is debatable whether *ja* really is felicitous in contexts in which the proposition is only uncontroversial or verifiable on the spot. Example (13) presents a context in which the proposition is verifiable on the spot, and uncontroversial, but it is also a context in which the speaker (S) wishes to inform the addressee (A) about a stain on A's pullover, and A obviously is unaware of this stain. In such a context, only an utterance without *ja* is felicitous.

(13) Context: S and A are having lunch. A spills some soup on his shirt, but does not notice.

- Du hast (# ja) einen Fleck auf deinem Pullover.*  
you have JA a stain on your sweater  
You have a stain on your sweater.
- Du har (# ju) en fläck på din tröja.*  
you have JA a stain on your sweater  
You have a stain on your sweater.

Thus, in a context in which the speaker truly wishes to inform the addressee about something that is possible to verify at the very second of utterance and uncontroversial, *ja* is not licit. It is however felicitous in contexts in which the proposition can be assumed to be a part of the shared common ground of speaker and addressee, either by being explicitly communicated, by being a part of their physical context or world knowledge. In example (13), the proposition is not part of the common ground, as the addressee clearly is unaware of it. Hence, I assume that the only meaning necessary for *ja* is

that it marks a proposition as shared knowledge, i.e. as part of a mutual common ground (which comprises not only communicated propositions by also extralinguistic information)<sup>2</sup>.

Turning back to the Swedish MP *ju*, I assume that the same meaning can be postulated for *ju* as for *ja*, as it is felicitous in the same contexts as *ja*, i.e. whenever the proposition is shared knowledge, i.e. in (11), (12), but not (13).

### **ju as a modifier of illocutionary force**

For the MP *ju* I will assume that its function is to modify the illocutionary force of the host utterance, in line with analyses of the German MPs by Waltereit (2001), Karagjosova (2004) and Egg and Mursell (2016), according to whom MPs modify the felicity conditions of the speech act. The MP *ju* only occurs in declarative clauses that are used to make assertions. When an assertion is made, a proposition is introduced into the discourse that is new/not known to the addressee, i.e. an assertion is (in part) defined by the felicity condition that “*it is not obvious to S and H(earer) that H knows p*”, cf. Searle (1969, 66). This condition (the second preparatory condition) is modified by *ju*, as *ju* marks that the proposition is already known to both speaker and addressee. Such a definition is compatible with the contexts in which *ju* can occur, i.e. when the proposition is known based on previous exchange, or when it is given by the extralinguistic context, such as the present situation of speaker and addressee, or by being world knowledge, i.e. when *p* is part of their shared common ground.

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<sup>2</sup>It has been pointed out to me by Sophie Repp (p.c.) that utterances with *ja* can be followed up by a statement that makes it clear that the addressee was not aware of *p* prior to the utterance thereof, cf. (i).

i Context: S and A attend a gathering:

S: *Da ist ja Peter!*

there is JA Peter

There is Peter, as you know!

A: *Wer is das, ein Kollege?*

who is that a colleague

Who is that, a colleague?

I do not regard this example as a counterargument of an analysis of *ja* as a marker of known information. However it shows that the status of *p* as known information is an **assumption** made by the speaker but it is not necessarily the case. However, when *p* is clearly not shared knowledge, *ja* is not felicitous, as shown in example (13).

### 2.2.2. väl

There are three possible meanings of the word *väl*: as an adverb meaning *good/well* (also possible in compounds; ‘*vällärd*’ (well taught), ‘*välväxt*’ (well grown), ‘*välkommen*’ (welcome)), and as a noun meaning approximately *well-being*, and the modal particle *väl*. Up until 1986 the noun and adverb reading are the only ones described in the dictionaries. In later editions of Svenska Akademiens Ordlista (2006), *väl* is categorized as an adverbs, but its MP meaning is also added. The MP meaning is the one I will discuss in this section<sup>3</sup>.

In the descriptive studies of the Swedish MPs by Aijmer (1978), Aijmer (1996) and Lindström (2008), *väl* is described as expressing uncertainty of the speaker and also a wish for feedback from the addressee. An utterance with *väl* is interpreted to be an assumption or a proposal, i.e. the proposition is possible, but the speaker is not certain about its truth. According to Lindström (2008), an utterance with *väl* often appeals to the hearer to determine the truth of the proposition. A consequence of this appeal to the hearer to determine whether the proposition is true or not, is that declarative sentences with *väl* are frequently interpreted as positively biased declarative questions. In the translation study of the MPs presented in Aijmer (1996), *väl* is frequently translated into English either as a tag question or as a phrase like *I suppose*, *I guess*.

Aijmer (1996) states that the meaning of *väl* is flexible ranging from weak commitment to uncertainty, depending on whether the utterance in which *väl* occurs is interpreted as a question or a statement. Note that *väl* never occurs in interrogative sentences. Being “interpreted as a question” is to be read as occurring in a declarative question which receives a question reading. When the utterance in which *väl* occurs is interpreted as a question, *väl* expresses weak commitment of the speaker towards the proposition that is denoted by the declarative. When the utterance is interpreted as a statement, *väl* expresses uncertainty of the speaker.

One example for a question interpretation in Aijmer (1996, 416) is given in (14a) and an example of uncertainty in (14b), cf. Aijmer (1996, 415), with the original translations.

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<sup>3</sup>In chapter 4, I will discuss syntactic differences between the MP *väl* and the adverb *väl*.

- (14) a. *Du fryser väl inte.*  
 you be cold VÄL not  
 Are you cold?
- b. *Snickarungarna var väl inte så aktsamma.*  
 carpenter's children were VÄL not so careful  
 I suppose the carpenter's children could not always have been  
 so very good.

Ajimer assumes multiple meanings of *väl*, and depending on in which type of utterance it occurs, one meaning is chosen. I agree with the assumption that the type of utterance is important to pay attention to, this will also be done in the following discussion. However, I argue that multiple meanings are not necessary, i.e. to assume that *väl* expresses weak commitment **or** uncertainty is superfluous. The only meaning necessary to assume is that *väl* expresses a weakened commitment towards the proposition, i.e. the meaning Ajimer (1996) proposed for *väl* when it occurs in an utterance interpreted as a question. The interpretation of uncertainty of the speaker when *väl* occurs in statement I assume follows as a result of the weakened commitment, i.e. the uncertainty is an implicature that arises from the weak commitment.

I argue that, in order to explain the different interpretations of an utterance as a question or a statement, it is necessary to pay attention to the context in which the utterance occurs, more specifically, whose commitment is under discussion, and possibly weakened, by *väl*.

My proposal for an analysis of *väl*-utterances as assertions or questions draws from an analysis of commitment in tag-questions with taste predicates in English by Malamud and Stephenson (2011). They discuss declarative questions with same polarity tags and reversed polarity tags. A declarative question with a same polarity tag, e.g. positive proposition + *is it?*, is used to check the commitment of the addressee (A) towards a proposition *p* in a context in which the speaker (S) is biased towards assuming *p*. By uttering a same polarity tag question, S is making a guess about A's state of mind. Answering with *yes*, only A commits to the proposition. In a declarative question with a reversed polarity tag, e.g. positive proposition + *isn't it?*, the commitments of both the speaker and the addressee are up for discussion. If the addressee confirms *p*, the result is that both S and A are committed to *p*, cf. Malamud and Stephenson (2011).

These observations about which tag signals commitment of which interlocutor match well with observations of utterances with *väl* when they are interpreted as questions. A question interpretation for an utterance with *väl* is possible in two types of contexts. First, when the speaker and addressee both can/should evaluate the proposition, see example (15).

(15) Context: S and A are having lunch together.

- a. S: *Det smakar väl bra?*  
It tastes VÄL good  
It tastes good, doesn't it?
- b. A: *Ja, (det gör det).*  
Yes it does it  
Yes, (it does.)

In example (15a) the speaker wants to reach an agreement with the addressee on whether their food tastes good. The goal in (15a) is thus not to state an individual commitment of S or A but to establish a joint commitment of S and A. By marking the utterance with *väl*, S signals that he is willing to establish this joint commitment to *p*, i.e. is biased towards S and A both committing to *p*, and checks if A is willing to commit to this. In other words: S is tentatively making an assertion on behalf of both S and A, to which A has to react before the proposition becomes part of their common ground. In this context, *väl* does not weaken any individual commitments but the joint commitment of S and A. If A agrees to commit to *p*, the weakening of the commitment is resolved, i.e. both S and A are fully committed. This is demonstrated by the fact that the weakening meaning *väl* is not picked up in by the positive answer. If *p* is rejected by A, no agreement occurs. It is important to note that a negative answer by A only rejects A's commitment, and as a result thereof not joint commitment is made. The willingness of S to commit to *p* remains, i.e. S's part of the joint commitment is not rejected. To clarify S's commitment to *p*, S could react to a negative answer of A with a follow-up statement such as "*Jag tycker det i alla fall.*" (= *Well, I do think so anyway*). The use of a declarative with *väl* thus has the same function as a declarative with a reversed polarity tag in this context, as analysed by Malamud and Stephenson (2011). An utterance without *väl* in this context would only check the commitment of the addressee, i.e. the bias of the speaker

to also assume  $p$  is missing and no joint commitment is up for discussion nor would it be established if the addressee answers this question with a *yes*.

In example (16a), only the addressee should evaluate the proposition as the opinion of the addressee is addressed directly and that of the speaker is excluded. Thus, only the individual commitment of the addressee is debated, and the utterance is interpreted as a question biased towards a positive answer of A. The speaker brings up the possible assertion that A likes the food, i.e. the speaker assumes that A is biased towards a commitment to this proposition, but A is the one who has to commit to it. If the addressee confirms, only A is committed to  $p$ .

(16) Context: S and A are having lunch together.

- a. S: *Du tycker väl att det smakar bra?*  
you think VÄL that it tastes good  
You like it, don't you?
- b. A: *Ja, (det gör jag).*  
Yes it do I  
Yes, (I do.)

This usage of declaratives with *väl* is licit in the same contexts as same polarity tag questions in Malamud and Stephenson (2011). The same utterance without *väl*, i.e. *Du tycker att det smakar bra?*, could either be interpreted as a statement by the speaker, i.e. the speaker determines that the addressee likes the food, or as a declarative question without a tag and without the assumption of S that A is biased to commit to  $p$ .

In a context in which only the speaker can evaluate the truth of the proposition, no question reading is possible for a declarative clause as only the commitment of the speaker is under discussion. If *väl* is introduced, the commitment of the speaker is weakened. The resulting reading of the utterance, i.e. a combination of an assertion and the weak commitment, will be a statement which expresses uncertainty of the speaker. This is demonstrated in (17) where only the speaker can evaluate the truth of the proposition, i.e. determine whether he likes the taste of the food. The usage of *väl* indicates that the speaker is only weakly committed to  $p$ , i.e. is reluctant to make an assertion with full commitment. No confirmation of A is possible/asked for as only the individual commitment of S is discussed, and it cannot be reinforced

by A. An utterance without *väl* would in this example result in an assertion without weakened commitment, i.e. S is not in any way reluctant to state *p*.

(17) Context: S and A are having lunch together.

- a. S: *Jag tycker väl att det smakar bra.*  
       I    think VÄL that it   tastes   good  
       I suppose it tastes good.
- b. A: # *Ja, (det gör du).*  
       Yes it    does you  
       # Yes, (you do.)

The examples above show that it is possible to assume that *väl* only expresses weakened commitment, individual of S and A or joint. Depending on the context, an utterance with *väl* is interpreted as a declarative question (debating A's individual or S's and A's joint commitment) or as an assertion with weakened speaker commitment towards the proposition. This can also be applied to the examples given by Aijmer (1996), cf. (14) above, where (14a) receives a question interpretation as it discusses A's commitment to *p*, and (14b) a uncertainty reading, as is expressed weaker commitment of S to *p*.

In contexts in which a question reading is possible, it is also possible to combine *väl*-declaratives with question tags. This shows that the question reading cannot be triggered by *väl* alone, but only arises in certain contexts and only then can the question interpretation of the utterance be reinforced by a question tag. In (18a and b), with the same contexts as above, i.e. in (15) and (16) respectively, question readings are possible, and a question tag can be added. However, in (18c), with a context as in (17), no question reading is possible, nor is a question tag.

(18) Context: S and A are having lunch together.

- a. *Det smakar väl bra, eller hur?*  
       It    tastes   VÄL good or    how  
       It tastes good, doesn't it?
- b. *Du tycker väl att det smakar bra, eller hur?*  
       you think VÄL that it   tastes   good or    how  
       You like it, don't you?
- c. *Jag tycker väl att det smakar bra, (# eller hur?).*  
       I    think VÄL that it   tastes   good    or    how  
       I suppose it tastes good, (# don't I?).



The assumption that the question reading arises from the context and does not arise solely from *väl* is demonstrated in (19), in which *väl* is omitted. The utterances in examples (19a and b) are interpreted as declarative questions, but (19a) lacks the willingness of S to establish a joint commitment. A positive response leads to a commitment of only A. (19b) lacks the assumption of S that A might be biased to commit to the proposition. This utterance thus could be followed up by an utterance of S which clearly rules out any positive bias for p, such as: *I did not expect you to like it*. An utterance as in (19c), for which I argued that no question reading is possible with *väl*, can only be read as an echo-question when *väl* is omitted.

(19) Context: S and A are having lunch together.

- a. *Det smakar bra?*  
It tastes good or how  
It tastes good?
- b. *Du tycker att det smakar bra?*  
you think that it tastes good  
You like it?
- c. *Jag tycker att det smakar bra?*  
I think that it tastes good  
I think it tastes good?

It is possible that utterances with *väl* with a question interpretation are additionally marked by prosody, to facilitate the question interpretation. Gunlogson (2001) states that declarative questions in English come with a rising intonation that indicates that the utterance is a request by the speaker that the addressee should commit to the proposition. Seeliger and Repp (2018) also note that declarative questions with the MP *wohl* in German are marked prosodically. Seeliger and Repp (2017) also discuss the intonational properties of declarative questions in Swedish and state that they are marked prosodically by various means. The prosodic properties of utterances with *väl* will not be discussed any further, but I would like to note that, in addition to a potential question intonation, the context (also) is important to induce the question or statement reading of utterances with *väl*.

Seeliger and Repp (2018) also discuss utterances with *väl* and propose that the meaning of *väl* is to signal that “the host utterance is intended as a question, or at the very least requests input from the addressee in the sense

that the proposition that it scopes over requires explicit ratification from the addressee before it can be added to the common ground.” (Seeliger and Repp, 2018, 17). However, as shown above, this proposal is too strong as it predicts that utterances with *väl* always are questions. If this were to be true, *väl* would not be felicitous in utterances as in example (17), in which no ratification from the addressee is asked for. My account of *väl* as a marker of weakened commitment allows for an interpretation of an utterance with *väl* as a weak assertion, but also allows for a question interpretation of the utterances, given the appropriate context.

Further, Seeliger and Repp (2018) claim that utterances with *väl* map with positive declarative questions with respect to their bias profile, i.e. both declarative questions with and without *väl* are felicitous when “contextual evidence for the detonated proposition (is given), and the speaker must not have assumed *p* before hand” (Seeliger and Repp, 2018, 18). As a result, they cannot account for the difference between utterances with *väl* and positive declarative questions.

In my opinion, these questions differ. They are both felicitous in light of positive evidence for *p*, but in order for *väl* to be felicitous, there must be a speaker bias towards the addressee committing to *p*, cf. examples (16a) and (19b) above. These two types of question utterances thus differ with respect to bias.

Further, positive contextual evidence is not necessary for an utterance with *väl* to be felicitous. Utterances with *väl* are also felicitous when the speaker previously has assumed *p* to be true, i.e. is biased to A being committed to *p*, but is given counter, i.e. negative, evidence. This is demonstrated in (20). The previous expectation of S on a commitment of A to *p* could come from some previous background knowledge that A would show up to the meeting, perhaps knowledge that it is a mandatory meeting. Faced with the counter evidence of A saying *see you next week*, this assumed commitment of A needs to be checked. In order to do so, S poses a question addressing A’s commitment to *p*, i.e. just as in (16) above. In this context, an utterance with *väl* is felicitous, but due to the negative evidence (and previous epistemic bias of S that A might be committing to *p*), a positive declarative question is not. A negative polar question is also possible.

(20) Context: S assumed that A would come to a meeting the following

day. However, A leaves work with the words "see you next week!" S utters:

- a.    *(Men) Du kommer väl imorgon?*  
       (But) you come     VÄL tomorrow  
       You will be here tomorrow, won't you?
- b.    # *Du kommer imorgon?*  
       you come     tomorrow  
       You will be here tomorrow?
- c.    *Kommer du inte imorgon?*  
       come     you not tomorrow  
       Will you not come tomorrow?

Example (20a and c) show that negative polar questions and utterances with *väl* both are felicitous in light of negative evidence. Further, they both express a bias towards a positive *p*, which needs to be checked. The fact that there is a contrast between the speaker assumption about *p* and the evidence can be verbalized by the conjunction *men*, meaning *but*, as indicated in (20 a), expressing contrast between two propositions. This discussion shows that the polarity of contextual evidence only determines whether a positive declarative question or a negative polar question is felicitous. The usage of *väl* is possible in both contexts, but always includes a bias of the speaker that A will commit to *p*, i.e. assumes a weak commitment of A to *p*. This discussion further supports the assumption that there is no question meaning of *väl*, but that *väl* only expresses weak commitment, and that the context of the utterance induces statement reading or a question reading.

### ***väl* as a modifier of illocutionary force**

The above postulated meaning of *väl*, expressing weakened commitment of the speaker or addressee, can be analysed as a modification of the illocutionary force if we assume that commitment states are part of the illocutionary force of the speech act. Following Vanderveken's (1990) analysis of illocutionary force, the sixth component *degree of strength* applies to the mental state expressed by the sincerity condition of a speech act, in case of assertion this is "S believes *p*", (Searle, 1969, 66). The expressed degree of strength can be neutral, stronger or weaker. It is possible to analyse *väl* as expressing a weaker than default degree of strength, i.e. S is weaker committed to *p* than in an utterance

without *väl*, in the same way a speaker that *supposes* or *guesses* *p* expresses a weaker commitment to *p* than a speaker *asserting* or *swearing* *p*<sup>4</sup>.

This analysis of *väl* as a modifier of commitment is in line with the analyses of German unstressed *wohl* by Zimmermann (2004) and Repp (2009), i.e. *wohl* expresses a weakened degree of strength of commitment of the speaker to the proposition<sup>5</sup>.

As *väl* only occurs in declarative clauses, the force it modifies is that of an assertion. In order to account for how an assertion can target a commitment of A, one has to analyse this as an indirect speech act, i.e. S expresses a weak commitment to *p* on A's behalf, i.e. S assumes that A will commit to *p*. Only the addressee can determine if this commitment is indeed correct, and thus the addressee is indirectly asked to react to the utterance.

If one wants to take the common ground managing approach to *väl*, it can be done the following way: If we assume that the commitment of the speaker towards a proposition is also noted in the common ground, cf. Krifka (2017) and Repp (2013), then *väl* is used to signal a lower degree of commitment.

### 2.2.3. *nog* and *visst*

In the following sections I will discuss the two MPs *nog* and *visst*. These MPs are sometimes considered to be synonyms, cf. SAOB, and they do indeed share some properties. These MPs can, in certain contexts, be used interchangeably, but they also have additional individual usages, which I will address below.

Both MPs occur in a middle field position as well as in a sentence initial position<sup>6</sup>. The details of their syntactic properties will be addressed in chapter 4, but the two occurrences of MPs is also relevant for the discussion of their semantic properties. When the MPs *nog* and *visst* occur in an initial position they are claimed to express a different meaning than the middle field coun-

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<sup>4</sup>I assume that expressing a commitment to *p* is the same as expressing a believe in *p*, i.e. there is no difference in to publicly express a believe in or to publicly commit to *p*.

<sup>5</sup>Note that the comparison between *väl* and *wohl* must be done with caution, as only *wohl* - unlike *väl* - can be used in contexts with evidence for *p*, but without speaker bias, and to mark reported speech. In these usages German *wohl* finds a counterpart in Swedish *visst*.

<sup>6</sup>Even though the occurrence of a modal particle in a sentence initial position is problematic in German, it is not in other languages, see Coniglio and Zegrean (2010) and Izutsu and Izutsu (2013) for discussions of sentence initial modal particles in Italian, Romanian and sentence final particles in Japanese.

terparts. Östman (1978) analyses these two different occurrences of *nog* as homonyms, whereas Aijmer (1978) claims that *nog* and *visst* express different pragmatic functions when they occur in the initial position compared to in the middle field position. I will claim that these two occurrences of *nog* and *visst* are two instances of the same MP, as the semantic properties of these MPs are present in both positions. This proposal will be addressed in detail further below. In the following section, I will first discuss the sentence medial *nog* and *visst*, and then turn to the sentence initial occurrences and offer a unified account of both instances.

### **Middle field *nog* and *visst***

According to Aijmer (1978) and Lindström (2008), a middle field *nog* and *visst* both have two possible meanings: on the one hand *nog* expresses that the proposition is an assumption or an inference and, on the other hand, signals uncertainty of the speaker. The MP *visst* expresses that the proposition is inferred or that there is indirect evidence for the proposition based on observations of the speaker, cf. Aijmer (1996). Data from Aijmer's 1996 translational study show that the MP *nog* frequently is translated as the adverb *probably* or as a clausal construction such as *I think/ I guess*. The MP *visst* is most frequently translated as the clausal constructions *It seems/I seem to*. On the basis of the multiple translations for these MPs in a sentence medial position, Aijmer (1996) claims that both these MPs function either as evidential markers or as modal expressions, as they mark the type of evidence but also the strength of the utterance.

Aijmer (1996) uses the classification by Palmer (1986) who classifies evidentiality as a subcategory of modality. However, in the literature there is a long standing discussion about the relation between modality and evidentiality, cf. discussion in de Haan (2001). de Haan (2001) argues that evidentiality is not a subcategory of modality and that there is no necessary relation between the two categories. In de Haan's analysis the difference between modality and evidentiality is that the former is a category of possibility (of a proposition to be true), whereas the latter is a category of source and type of evidence.

I will use de Haan's categorization of evidentiality and modality and argue that the MPs *nog* and *visst* are evidential markers for indirect evidence, more specifically that these particles mark that the proposition of their host utter-

ances is an inference and also expresses which type of base there is for this inference. According to Nuyts (2001) and Dendale and Tasmowski (2001), the base for an inference can be indirect perception (visual, auditive, etc.) or reported evidence, or indirect based on general background knowledge.

I will argue that the evidential meaning of these MPs is always present, see discussion further below, and that their modal meaning postulated in Aijmer's analysis, i.e. an uncertainty about the truth of the proposition, is a result of their function to mark that the assumption is based on indirect evidence. Overtly stating that there only is indirect evidence for a statement implies that the speaker cannot make a stronger statement, e.g. based on direct evidence, and this must result in a level of doubt or uncertainty.

A further argument for the assumption that these MPs are evidential markers is found in de Haan (2001). He suggests that a certain amount of grammaticalization is necessary for evidentials. As a result thereof, adverbs like *reportedly* or *evidently* are not to be analysed as evidentials. This property of being grammaticalized elements seems to apply to *nog* and *visst* as they differ syntactically from adverbs. This will be addressed in detail in the chapters 4 and 5.

I propose that the meaning of *nog* is to indicate that the host utterance of *nog* is an inference based on some background knowledge of the speaker, i.e. only one of the meanings proposed by Aijmer (1996). In the following, I will show that the evidential meaning is the only one necessary to account for all occurrences of *nog*. In example (21b) the type of evidence marked by *nog* in (21a), i.e. background knowledge about John's habits, is spelled out.

- (21) a. *Peter var nog på mötet.*  
Peter was NOG at meeting.DEF.  
I guess Peter was at the meeting.
- b. *Han går alltid dit.*  
he goes always there  
He always goes.

The MP *visst* I assume marks indirect evidence either of the type perceived evidence or of the type reported speech, as demonstrated in (22c) and (22d). The former type of evidence might be more or less conclusive, i.e. offer more or less room for doubt that the inference is correct.

- (22) a. *Peter var visst på mötet.*  
 Peter was VISST at meeting.DEF.  
 It seems that Peter was at the meeting.
- b. *Hans namn står här på deltagarlistan.*  
 His name stands here on participationlist.DEF.  
 His name is on the list of participants.
- c. *Anna berättade det.*  
 Anna told it.  
 Ann said so.

Above I stated that the MPs *nog* and *visst* are sometimes regarded to be synonyms as they sometimes occur in the same context. This might be due to their similarity in meaning or, as I will argue, due to a flexibility in interpretation of the evidence, cf. (23).

- (23) a. *Johan är nog/visst ute och joggar nu.*  
 John is NOG/VISST out and runs now  
 Paraphrase: *I guess/it seems that John is out for a run at the moment.*
- b. *Hans jogginsskor står inte i hallen.*  
 his running shoes stand not in hallway.DEF  
 His running shoes are not in the hallway.

In this context the evidence stated in (23b) is not conclusive for the statement in (23a) but allows for two different interpretations, depending on which MP is used. In the statement with *nog*, the sentence in (23b) is used as a justification for (23a) based on background knowledge along the following lines: the shoes are not in the hallway, and combining this information with background knowledge, such as John always uses these shoes when he is running, it is licit to draw the inference that John is out for a run at this very moment. In the statement with *visst*, the sentence in (23b) presents the indirect (visual) evidence for the assumption in (23a), i.e. the speaker might be standing in the hallway and seeing that the shoes are missing.

To elaborate further on this distinction of evidence marking between *nog* and *visst*, with respect to the type of evidence, see example (24). It shows that *nog* is not compatible with visual/hearsay indirect evidence for a proposition, as demonstrated in (24b), nor with direct evidence for the proposition, cf. (24c). It is also not compatible with reported speech, as shown in (24d).

- (24) a. *Peter var nog på mötet.*  
 Peter was NOG at meeting.DEF.  
 I guess Peter was at the meeting.
- b. # *Hans namn står här på deltagarlistan.*  
 His name stands here on participationlist.DEF.  
 His name is on the list of participants.
- c. # *Jag såg honom där.*  
 I saw him there  
 I saw him there.
- d. # *Anna berättade det.*  
 Anna told it.  
 Ann said so.

Compare the evidence in (24b) to the evidence in (23b). The difference between the two is that only (23b) can be interpreted as an inference based on background knowledge about John habits. (24b) does not express background knowledge, but presents visual indirect evidence and as such is not compatible with *nog*.

The MP *visst* is not compatible with direct evidence, as demonstrated in (25b), nor can it be used to mark the assumption as based on background knowledge, cf. (25c), but it is compatible with visual indirect evidence for p, as shown in (25d).

- (25) a. *Peter var visst på mötet.*  
 Peter was VISST at meeting.DEF  
 It seems that Peter was at the meeting.
- b. # *Jag såg honom där.*  
 I saw him there  
 I saw him there.
- c. # *Han går alltid dit.*  
 he goes always there  
 He always goes.
- d. *Hans namn står här på deltagarlistan.*  
 His name stands here on participationlist.DEF.  
 His name is on the list of participants.

With the examples above I have argued that MPs can be ascribed only evidential meanings and I have displayed which type of evidence they mark, by



overt mentioning thereof. One addition argument for the analyses of the MPs *nog* and *visst* as evidential markers arises when medial or sentence initial MP *nog* occurs together with modal verbs, cf. (26a). This possible co-occurrence shows that the meaning contribution of the MPs cannot be modal, but marks that the statement is an inference drawn by the speaker based on a specified type of evidence. The same statement with the modal verb *kan* (=can), but without the MP, still conveys the modal meaning of possibility, from the modal verb, but does not entail the information that the statement is based on background knowledge of the speaker, cf. (26c).

- (26) a. *Han kan nog redan ha gått för dagen.*  
 He can NOG already have left for day.DEF  
 Speaker assumes that it is possible that he has already left for the day.
- b. *Nog kan han redan ha gått för dagen.*  
 NOG can han already have left for day.DEF  
 Speaker assumes that it is possible that he has already left for the day.
- c. *Han kan redan ha gått för dagen.*  
 He can already have left for day.DEF  
 It is possible that he has already left for the day.

This example also shows that the marking of an utterance as an inference of the speaker with reference to the type of evidence is present with the MPs in a medial position as well as in a initial position, to which I turn next.

### Sentence initial *nog* and *visst*

Aijmer (1996) argues that the MPs *nog* and *visst* express different meanings depending on in which position in the clause they occur. In the sentence medial position, *nog* marks indirect evidence and conveys an uncertainty about the definite truth of the proposition. In contrast, a sentence initial *nog* expresses a strong speaker certainty and is analysed by Aijmer (1996) as a discourse marker without any meaning of the sentence medial *nog*, i.e. an initial *nog* expresses a reinforcement or confirmation of what has been already stated. The statement in (27b) with a sentence initial *nog* thus signals strong certainty of the speaker B, i.e. the speaker finds it very likely that *p* is true. This strong certainty is not present in (27c). For *visst* the same shift

of strength is observed by Aijmer (1996), i.e. only an initial *visst* expresses strong speaker certainty.

(27) Context: A questions the possibility that John is at home uttering:

- a. A: *Tror du att Johan är hemma nu?*  
Believe you that John is at.home now  
Do you believe that John is at home now?
- b. B: *Nog/Visst är Johan hemma nu.*  
NOG/VISST is John at.home now  
John surely is at home now.
- c. B: *Johan är nog/visst hemma nu.*  
John is NOG/VISST at.home now  
Paraphrase: I guess/it seems that John is at home.

Aijmer (1996) argues that the two occurrences of *nog* and *visst* are unrelated as they differ in the strength of certainty they convey. However, as I will show below, these two instances should not be analysed as unrelated occurrences.

There are two reasons for this: First of all, the sentence initial *nog* may only occur with the same type of evidence as the medial *nog*, cf. (28).

- (28) a. *Nog var Peter på mötet.*  
*nog* was Peter at meeting.DEF.  
Of course Peter was at the meeting.
- b. *Han går alltid dit.*  
he goes always there  
He always goes.
- c. # *Hans namn står här på deltagarlistan.*  
His name stands here on participationlist.DEF.  
His name is on the list of participants.
- d. # *Anna berättade det.*  
Anna told it.  
Ann said so.

The same holds for *visst*, i.e. a sentence initial *visst* is also compatible with perceived indirect evidence or reported speech but not with background knowledge, cf. (29).

- (29) a. *Visst var Peter på mötet.*  
*visst* was Peter at meeting.DEF.  
Of course Peter was at the meeting.

- b. *Hans namn står här på deltagarlistan.*  
His name stands here on participationlistDEF.  
His name is on the list of participants.
- c. *Anna berättade det.*  
Anna told it.  
Ann said so.
- d. # *Han går alltid dit.*  
he goes always there  
He always goes.

Secondly, the reported shift of strength may be motivated in some other way. First of all, a similar interaction between position and strength has been reported for the German adverb *sicher* (=surely), cf. (30) and cf. Auer (1997).

- (30) a. *Maria kommer sicher morgen.*  
M. comes surely tomorrow.  
Paraphrase: S thinks it is likely that Mary will come tomorrow.
- b. *Sicher kommer Maria morgen.*  
Surely comes M. tomorrow.  
Paraphrase: S is convinced that Mary will come tomorrow.

Second, the strength of the utterance with a sentence initial *nog* or *visst* might also be a result of some interaction with intonation. I will not address the intonational properties of these utterances, but only note that an utterance with a sentence initial MP does not have to convey a strong certainty of the speaker, as such utterances can also be interpreted as questions, cf. (31) and (32).

- (31) a. *Nog är Peter ute och joggar! Hans skor står inte i hallen.*  
NOG is Peter outside and running his shoes stand not in hallway.DEF  
Paraphrase: Speaker is convinced that Peter is out for a run.
- b. *Nog är Peter ute och joggar?*  
NOG is Peter outside and running  
Paraphrase: Please confirm my (speaker) assumption that Peter is out for a run.

- (32) a. *Visst är Peter ute och joggar! Hans skor står inte i hallen.*  
 VISST is Peter outside and running his shoes stand not in hallway.DEF  
 Of course Peter is out for a run. His running shoes are not in the hallway.
- b. *Visst är Peter ute och joggar?*  
 VISST is Peter outside and running  
 Paraphrase: Confirm my assumption that Peter is out for a run.

Further, Aijmer (1996) also states that a sentence medial *nog* also can express reinforcement in threats, as in (33a), and promises, (33b), i.e. the very meaning she ascribed to the sentence initial *nog* can also occur in the medial *nog*.

- (33) a. *Jag ska nog få bukt med henne.*  
 I shall NOG have bend with her  
 I will deal with her.
- b. *Jag ska nog klara av att lösa problemet.*  
 I shall NOG manage of to solve problemDEF  
 I will probably manage to solve the problem

For some reason, expressing that one finds something likely to happen, based on previous experience, fits well in speech acts predicting future events. Stating that something is likely to happen based on the experience of the speaker, can be interpreted as an assurance that it will most likely happen in the future. The observation that sentence initial MPs do not necessarily express reinforcement but that a medial *nog* can express reinforcement further supports my proposal that the sentence medial and the sentence initial version of the MP are not homonyms with distinct meanings, but in fact the same MP.

There might however be some limits to this assumption with respect to the MP *visst*. There are two further usages of *visst*, which might not be MPs. First, *visst* can be used as a response particle expressing agreement, cf. Aijmer (1978) (in a sentence initial position). It may occur in combination with the affirmative particle *ja*, but this is not necessary, cf. (35a). This usage is not possible for *nog*, cf. (35).

- (34) Is Peter out for a run?

- a. *(Ja,) visst (är han det.)*  
yes, VISST is he it  
Yes, of course (he is).
- b. *Ja, \*(det är han) visst.*  
yes, it is he VISST  
Meaning: Yes, it seems that he is.
- c. *Ja, visst. Jag träffade honom nyss.*  
yes, VISST i met him just  
Yes, I just met him.

(35) Is Peter out for a run?

- a. *Ja, nog \*(är han det.)*  
yes, VISST is he it  
Intended meaning: Yes, of course he is.
- b. *Ja, \*(det är han) nog.*  
yes, it is he VISST  
Intended meaning: Yes, I assume that he is.

The fragment answer '*ja visst*' can only express strong certainty of the speaker, the meaning ascribed to the sentence initial version of *visst* by Aijmer (1996). This strong certainty can, as argued above, be ascribed solely to the intonation of the utterance, as was done in (32a). However, as no evidential meaning is present in this answer, i.e. it is an affirmative answer without any reference to indirect evidence, this *visst* should perhaps rather be classified as a response particle without any function as an evidential marker.

There is a further occurrence of *visst* that can be used to emphasize the polarity of the utterance, cf. Petersson (2006) and (36). This is primarily used when the speaker does not agree with a previous utterance (cf. *DOCH* in German), i.e. when there is a direct contrast between a preceding proposition and the sentence containing *visst*. This usage of *visst*, carrying the main stress of the sentence, could possibly be an instance of Verum-focus, cf. Höhle (1992), expressed on the MP, as often is done for *DOCH*, cf. section 3.1.1. However, there are some syntactic differences between the evidential MP *visst* and this polarity stressing *visst* which reinforce the assumption that the polarity *visst* is not a MP. This will be discussed in detail in section 2.3.3.

- (36) a. *A: Peter är inte ute och joggar.*  
Peter is not out and running

Peter is not running.

b. B: *Jo, det är han VISST.*

yes, it is he VISST

Meaning: But yes, he IS.

Summarizing the discussion of initial and medial *nog* and *visst* I argue that it is possible to assume that both occurrences are instances of the MPs. The strength of an utterance with an initial MP is dependent on the intonation of the utterances, but their evidential meaning is always present. The only instances of *visst* which are possibly not MPs are the response particle *visst* and the medial stressed *visst*.

### Evidentiality and the interaction with illocutionary force

Above I have argued that the meaning of the MPs *nog* and *visst* are evidential. As evidential markers it is possible that they modify the illocutionary force of the utterance: The connection between the evidential MPs *nog* and *visst* and illocutionary force can, for assertions be made as follows: The first preparatory condition for assertions state that the speaker has sufficient evidence for the proposition, cf. Searle (1969, 66). If this is not the case, i.e. if there is only indirect evidence of some kind, this should be marked. This is done by *nog* by reference to background knowledge of the speaker and by *visst* by reference to indirect evidence or reported speech.

Further, as these MPs mark that the utterance is an inference and which type of evidence is present, they also tie the utterance to the speaker. In contexts in which the actual speaker is not the same as the subject of the matrix clause, .e.g. in case of embedding under verbs of saying, the meaning of *nog* or *visst* is always tied to the subject, i.e. the subject of the matrix clause is the one drawing an inference based on some the indirect evidence, not the actual speaker. This is demonstrated in example (37), in which the actual speaker can overtly state that he does not believe the statement made by the speaker of the matrix clause to be true, by uttering the follow up statement in (37b). This would not be felicitous if *nog* or *visst* in the embedded clause would refer to the background knowledge or evidence available to the actual speaker.

- (37) a. *Klara sa att Peter nog/visst är ute och joggar.*  
 Claire said that Peter NOG/VISST is out and running

Claire said that she assumes/it seems that Peter is running.

- b. *Men jag tror inte att det stämmer*  
 but I believe not that it is correct  
 But I do not believe that it is true.

## 2.2.4. Intermediate summary

In this section I have discussed previous semantic descriptions of MPs found in the literature on Swedish. I have argued that it is not necessary to postulate multiple meanings for each MP, but proposed that each MP only expresses one core meaning. The MP *ju* marks that the speaker takes the proposition in its scope to be known information. *väl* expresses a weak commitment of the speaker or addressee, depending on the context, towards *p*.

*nog* expresses that *p* is an inference, based on indirect evidence such as background knowledge of the speaker. *visst* expresses that *p* is an inference, based on perceived indirect evidence or marks reported speech. Further, I have shown a possibility for how the meanings of the MPs could be incorporated into existing analyse of MPs as modifiers of the illocutionary force. Based on their semantics, the MPs can divided into two types. One type contains the particles *ju* and *väl*, the other *nog* and *visst*. The MPs *ju* and *väl* both relate to the speaker's attitude towards a proposition, whereas the MPs *nog* and *visst* are evidential markers.

In the next section, I will present syntactic descriptions of the MPs found in the existing literature and present further support for the claim that there are two different types of MPs.

## 2.3. Syntactic and phonological descriptions of the MPs

The syntactic properties of the MPs in Swedish have not received much attention, as the MPs are frequently analysed as sentence adverbs, cf. Teleman et al. (1999), Beijer (2005) and Platzack (2009). In the literature on German MPs, the discussion is more detailed, and in works of Aijmer (1978, 1996), Lindström (2008) and Alm (2012) some frequently mentioned properties of German MPs are discussed also for the Swedish MPs. In this section I will

present these initial observations from the literature and relate them to the properties of German MPs. Already these initial observations support the assumption that there are two distinct types of MPs in Swedish, but this will be discussed in greater detail in chapter 4, in which I present a syntactic analysis of the MPs which relies on these and additional observations. In chapter 4 I will also address the syntactic distinction between MPs and sentence adverbs.

### 2.3.1. Restriction to certain sentence types

The restriction to certain sentence types is a prominent feature of MPs also in German. For instance, the German MP *ja* (unstressed) can only occur in declarative sentences, *denn* only in (polar- and *Wh*-) interrogatives, whereas other particles can occur in more than one sentence type, i.e. *wohl* can occur in declarative and interrogative sentence types, cf. Thurmair (1989, 49) for the full paradigm of the occurrence of German MPs in different sentence types. Alm (2012) notes that the Swedish MP *ju* only occurs in declarative clauses. As shown in (38) this also holds for the other MPs.

- (38) a. *Peter läser ju/väl/nog/visst tidningen i*  
Peter reads JU/VÄL/NOG/VISST newspaper.DEF in  
*köket.*  
kitchen.DEF  
Peter reads the newspaper in the kitchen.
- b. \**Läser ju/väl/nog/visst Peter tidningen i*  
reads JU/VÄL/NOG/VISST Peter newspaper.DEF in  
*köket?*  
kitchen.DEF  
Does Peter read the newspaper in the kitchen?
- c. \**Läs ju/väl/nog/visst tidningen i köket!*  
read JU/VÄL/NOG/VISST newspaper.DEF in kitchen.DEF  
Read the newspaper in the kitchen!

I will not address the question of how this restriction to certain sentence types should be analysed in this work any further, but only note that this is a property in which the MPs differ from sentence adverbs.

As shown below, sentence adverbs are more flexible with respect to the sentence types in which they occur. Modal sentence adverbs as well as the negation might occur in declarative as well as in interrogative sentences. cf. (39).



- (39) a. *Peter läser kanske/möjligtvis/inte tidningen* *i*  
 Peter reads maybe/possibly/not newspaper.DEF in  
*köket.*  
 kitchen.DEF  
 Peter maybe reads/ possibly reads/ does not read the newspa-  
 per in the kitchen.
- b. *Läser kanske/möjligtvis/inte Peter tidningen* *i*  
 reads maybe/possibly/not Peter newspaper.DEF in  
*köket?*  
 kitchen.DEF  
 Does Peter maybe/possibly/not read the newspaper in the kitchen?
- c. *Läs ?kanske/?möjligtvis/inte tidningen* *i köket!*  
 read maybe/possibly/not newspaper.DEF in kitchen.DEF  
 Maybe/Possibly/ do not read the newspaper in the kitchen!

It is worth noting that modal sentence adverbs expressing epistemic modality are infelicitous in imperative sentences, whereas the negation is felicitous. Thus, assuming full flexibility for the adverbs with respect to in which sentence types they occur might be an overgeneralization. However, the MPs are less flexible than sentence adverbs, as they only are licit in declarative sentences in Swedish.

### 2.3.2. Position in the middle field

Another important, frequently mentioned, property of the MPs in German is that they only occur in the middle field and never in a sentence initial position of matrix clauses<sup>7</sup>, cf. Thurmair (1989).

This restriction to the middle field seems to be a criteria that is applicable to German, but it does not carry over straightforwardly to other languages. Coniglio and Zegrean (2010) discuss Italian and Romanian MPs and show that neither all the Italian nor all the Romanian particles are restricted to a certain sentence position. They can occur in the clause-medial IP-domain and sentence initially (CP-domain). In Japanese, cf. Izutsu and Izutsu (2013), and Chinese, cf. Paul and Pan (2016), particles with a similar semantic con-

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<sup>7</sup>It has been observed that MPs in German also occur in embedded clauses to a certain extent, cf. Coniglio (2011) and Döring (2013). In how far this is possible in Swedish will be discussed in chapter 4.3.3.

tribution as the German or Swedish MPs are attested to occur in a sentence final position.

In Swedish, the area corresponding to the middle field is delimited by the finite (auxiliary) verb in second position (C°) and the lexical verb, marked by bold print in (40). This part of the sentence is referred to as the *nexus field* in Abraham (1991) but as *mittfält*, i.e. literally *middle field*, in more recent works on Swedish grammar, cf. Platzack (2009) and Teleman et al. (1999). I will henceforth refer to this section as the *middle field* and refer to MPs in this position as *sentence medial MPs*.

- (40) *Peter har ju antagligen inte **läst** boken.*  
P. has JU probably not read book.Def  
Peter has probably not read the book.

The MPs *ju* and *väl* only occur in this clause-medial position, more precisely, they are restricted to the left edge of the middle field, as shown in (41), cf. also Aijmer (1978, 1996), Östman (1978), Teleman et al. (1999), Beijer (2005) and Lindström (2008). Occurring in the left most position of the middle field also means that no sentence adverbs can occur to the left of the MPs, cf. (41c). Aijmer (1978) proposes that the restriction to the middle field is related to different syntactic status of the MPs in comparison to adverbs, i.e. the MPs are clitics, and as a consequence thereof appear immediately to the right of the verb in second position. The assumption that the MPs are clitics is not elaborated on any further in Aijmer (1978) or any of her later work, but I will discuss this in detail in chapter 4.

- (41) a. *Peter har {ju/väl} läst boken.*  
P. has JU/VÄL read book.Def  
Peter has read the book.
- b. *{\*Ju/\*Väl} har Peter läst boken.*  
JU/VÄL has P. read book.Def
- c. *Peter har ⟨\*antagligen⟩ {ju/väl} ⟨antagligen⟩ läst boken.*  
P. has probably MP probably read book.Def  
Peter has read the book.

Beijer (2005), Östman (1978) and Lindström (2008) also claim that the MP *nog* also is restricted to the middle field. However, as discussed in section

2.2.3, I showed that the MPs *nog* and *visst* both occur in a sentence initial position. The data is repeated below for convenience, cf. (42).

- (42) a. *Peter har nog/visst läst boken.*  
P. has NOG/VISST read book.Def  
*Peter has probably/obviously read the book.*
- b. *{Nog/Visst} har Peter läst boken.*  
NOG/VISST has P. read book.Def  
Approx: *Surely Peter has read the book.*

Aijmer (1996) claims that there is a change in meaning of the utterances when the MPs occur in a sentence initial position as the strength of certainty is changed, but above I argued that the evidential meaning is also present in both occurrences, and the difference in strength might be related to intonational properties of these utterances.

Reviewing the position of the MPs in a matrix sentence shows that the MPs *ju/väl* are restricted to the middle field whereas *nog/visst* occur in the middle field and in a sentence initial position.

### 2.3.3. Phonological properties

The most prominent phonological feature of MPs that has been suggested cross-linguistically is that they cannot carry stress. German MPs are frequently claimed to be inherently unstressed, cf. Weydt (1969), or lacking lexical stress, cf. Thurmair (1989), or not being able to carry contrastive stress, cf. Cardinaletti (2011). The phonological properties of German MPs will be discussed in detail in chapter 3.1.1, but for now it will be enough to distinguish between sentence stress, word stress and a lack of word stress.

The property of not being able to carry word stress has been claimed to hold for two of the Swedish MPs. The MPs *ju* and *väl*<sup>8</sup> are described as inherently unstressed, cf. Teleman et al. (1999) and Riad (2014) for *ju*. Being unstressed can be equated to not carrying word stress, and as a result also not carrying word accent (tonal accent, for which stress is a prerequisite, cf. Riad (2014)).

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<sup>8</sup>Note that even though *väl* often corresponds to the German MP *wohl*, it does not always have the same meaning, and cannot be stressed. A stressed *wohl* in German corresponds to the Swedish MP *visst*.

*nog* and *visst* are never described as unstressed, but rather seem to be able to carry word stress when they occur in the middle field. Further, *nog* cannot carry sentence stress, cf. (43).

- (43) a. *Peter läser ju/väl/nog/visst boken.*  
Peter reads JU/VÄL/NOG/VISST book.DEF  
Peter reads the book.
- b. \**Peter läser JU/VÄL/NOG boken.*  
Peter reads JU/VÄL/NOG book.DEF  
Peter reads the book.

According to Aijmer (1996), the MPs *nog* and *visst* are stressed when they occur in sentence initial position. However, sentence initial elements are not necessarily stressed in Swedish, see Myrberg and Riad (2015) and the discussion in chapter 6.

As discussed in section 2.2.3, *visst* can carry the main stress of the sentence in the sentence medial position. When this is the case, it expresses a different meaning than the unstressed medial version, i.e. disagreement with a previous utterance, cf. Petersson (2006), or as stated above, the polarity of the sentence is stressed, cf. the translation of (44a) and (44b)<sup>9</sup>.

- (44) a. *Peter har vist läst boken.*  
P. has VISST read book.Def  
It seems that Peter has read the book.
- b. *Peter har VISST läst boken.*  
P. has VISST read book.Def  
Peter HAS read the book.  
Contextual restriction: As a reply to a preceding negative utterance.

However, this type of *visst* with sentence stress might possibly be of a different type, i.e. not simply a stressed version of the MP, as it also occurs in a lower position in the clause than the unstressed *visst*, preceded by (some) sentence adverbs in the middle field, cf. (45).

- (45) A: *Jag trodde inte att Peter kommer imorgon.*  
I believed not that Peter comes tomorrow  
I didn't believe that Peter will come tomorrow.

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<sup>9</sup>Capital letters indicate stress.

B: *Men Peter kommer antagligen VISST i morgon.*  
but Peter comes probably VISST in tomorrow  
But Peter will probably come tomorrow anyway.

The phonological properties of the Swedish MPs will be revisited in detail in chapter 4.1.1 and chapter 6. The initial observations show that the MPs *ju/väl* are unstressed whereas the MPs *nog/visst* carry stress to some extent.

## 2.4. Summary

In this chapter I have shown that it is possible - and necessary - to assume that there are modal particles in Swedish. The MPs fit the semantic as well as syntactic criteria used to define MPs in other languages, mainly German. Starting with a semantic view on the particles, I showed that they can be analysed as modifiers of the illocutionary force. Further I argued that there are two types of MPs in Swedish. The MPs *ju* and *väl* express the attitude of the speaker towards a proposition. *Ju* marks the proposition as known, and *väl* modifies the commitment towards *p*. The MPs *nog* and *visst* are analysed as evidential markers, marking an utterance as an inference. *Nog* expresses that the inference is based on background knowledge of the speaker whereas *visst* expresses the inference is based on perceived indirect evidence.

The distinction between two types was further supported by an initial inspection of their syntactic properties. The MPs *ju* and *väl* display some peculiar syntactic properties (to some extent the same as German MPs). They are restricted to the left part of the middle field and may not occur in a sentence initial position. Further the MPs have been claimed to be inherently unstressed.

The MPs *nog* and *visst* occur in the middle field, but are not only restricted to this position, as they may also appear in a sentence initial position. The shift in position is sometimes, but not necessarily, accompanied by a shift of strength of the utterance, but their evidential meaning is present in both positions.

In the following chapter I will discuss the syntactic and phonological properties of German MPs in greater detail, in order to detect which properties define MPs as a group, i.e. delimit them from sentence adverbs. Possible syntactic analysis of German MPs will also be discussed. The discussion will

then turn back to the Swedish MPs in chapter 4. The initial observation of two classes of MPs will be strengthened. Further, the claim that MPs are not sentence adverbs, not even on the level of syntax, will also be addressed in greater detail.

## 3. Syntactic analyses of MPs in German

In the previous chapter, I presented some observations which allow us to assume that there are MPs in Swedish. The main motivation for this claim were derived from observations of their semantic properties, but they also show some syntactic properties that make them stand out from other types of words, in particular from sentence adverbs. The properties of the Swedish MPs are the very same ones that are used to argue in favour of various syntactic analyses of MPs in German.

In German, the syntactic and phonological properties of MPs have motivated a range of syntactic analysis. The proposed analyses of MPs in German range from MPs as heads, cf. Bayer and Obenauer (2011) and Struckmeier (2014), to analyses of MPs as deficient phrases, cf. Grosz (2007), Cardinaletti (2007, 2011) and Coniglio (2011). What is interesting about these analyses is that they to some extent rely on the same properties of MPs to argue in favour of their respective analyses. In the first section of this chapter I will present short overviews of these relevant phonological and syntactic properties, and discuss which ones any syntactic analysis really needs to be able to account for. In section 3.2, I turn to the analyses and discuss how well they account for the properties of the MPs.

### 3.1. Properties of MPs

#### 3.1.1. Phonological properties

The primary phonological criterion to classify an element as a MP is stress, and it is frequently claimed that MPs cannot be stressed, cf. Thurmair (1989) and Weydt (1969). There is however one problem with this criterion: *un-*

*stressed* could refer to being inherently unstressed, i.e. unable to carry any type of stress, or it could refer to a disability to carry word stress or main sentence stress. In the following discussion these three types of stress will be distinguished. ‘Unstressed’ will be used to denote an element without any stress, ‘word stress’ should be read as having an equal amount of stress as other words in the utterance and ‘sentence stress’ as the type of stress that indicates the focus of a sentence, cf. Wiese (1996) on stress as a relational matter.

Turning to some data, it shows that MPs differ with respect to this property. Thurmair claims that mono-syllabic MPs are unable to carry any stress, i.e. sentence or word stress. Mono-syllabic MPs which carry word stress<sup>1</sup> are, according to Thurmair (1989), used in some other function, such as sentence adverbs, and thus should not be classified as MPs. Thurmair (1989) further claims that bi- and polysyllabic MPs, such as German *eigentlich* (=really) and *vielleicht* (=possibly), necessarily carry word stress, but cannot carry sentence stress. Any instance of these polysyllabic MPs with sentence stress will necessarily be interpreted as an adverb, cf. (46), from Thurmair (1989, 27), transcript added.

- (46)    a.     *Wie HEISST du eigentlich<sub>MP</sub>?*  
                      'eint.lich  
                How calls      you EIGENTLICH  
                What is your name?  
  
     b.     *Wie heißt du EIGENTLICH<sub>ADV</sub>?*  
                      'ei.gent.lich.  
                How calls    you really?  
                What is your real name?

Note, however, as indicated in the transcript of the MP and the adverb, that the MP displays a reduced syllable structure compared to the adverb. This reduction seems to be relevant for the MP-reading of *eigentlich*.

Thurmair (1989) further notes that there are exceptions to the claim that mono-syllabic MPs cannot carry stress. The MP *ja* occurs unstressed, i.e.

<sup>1</sup>Thurmain (1989) uses the term *Wortakzent*, which also could be translated as *word accent*. In the literature the words *accent* and *stress* are often used synonymously, but in order to avoid confusion later in the discussion on Swedish data, where *accent* refers to tonal word accents, which are distinct from stress, I will only use the term *stress* to refer to prosodic prominence.



without word stress, in declarative clauses, cf. (47a and b) but can be stressed in certain contexts, e.g. in imperative clauses, cf. example (47c) from Thurmair (1989, 22) (my translations).

- (47) a. *Peter hat ja das Buch schon gelesen.*  
 Peter has JA the book already read  
 Peter has already read the book, as you know.
- b. \* *Peter hat JA das Buch schon gelesen.*  
 Peter has JA the book already read  
 Peter has already read the book, as you know.
- c. *Mach JA deine Hausaufgaben!*  
 make JA your home work  
 Approximately: You better do your homework!

The stressed version of *ja* in an imperative clause is claimed to be an instance of empathic stress by Thurmair (1989), and she assumes that this is only possible for some MPs, such as *ja*, *bloß* and *nur*. Other usages of main sentence stress, i.e. to express information focus or contrast, is not possible for MPs. This is indicated by their inability to be explicitly contrasted, cf. (48), or be explicitly negated, cf. (49), both examples from Thurmair (1989, 23).

- (48) \* *Er hat es nicht DOCH sondern HALT gemacht.*  
 He has it not DOCH but HALT made
- (49) A:\* *Sie ist doch gekommen.*  
 She is DOCH came.  
 She came DOCH.
- B:\* *Nein, sie ist HALT gekommen.*  
 No she is HALT came  
 No, she came HALT.

I will return to these different instances of stress further below. To summarize Thurmair's claims so far, monosyllabic MPs are assumed to be unstressed, i.e. no word stress is possible, but they may carry empathic stress in certain sentence types. Bi- or polysyllabic MPs carry word stress, but cannot carry empathic or sentence stress.

Cardinaletti (2011) takes a slightly different stance and claims that non of the MPs, i.e. not even the mono-syllabic MPs, in German and Italian are



by a shift of vowel quality, i.e. a shift from a full vowel to a [ə] in the nucleus. This is also the case with *ja*. Only when *ja* occurs with emphatic stress is it pronounced with a full and long vowel [a:] in the nucleus. The MPs *ja* thus has two phonological realizations, one as a weak syllable, which cannot carry word stress, and one that can carry sentence stress, as shown in example (47) above.

It must be noted that word stress is assumed to be a prerequisite for sentence stress, cf. Fuhrhop and Peters (2013), i.e. a unit that can carry word stress should also be able to carry sentence stress. Additionally, given the assumption that any unstressed syllable can be stressed, indicated by a changed vowel quality, there are no phonological restrictions to why some MPs should not be able to be stressed, i.e. by word or sentence stress. Thus, from a phonological perspective it is unclear why MPs such as *eigentlich* and *vielleicht* can only be analysed as MPs if they occur with a reduced phonological structure compared to their adverb homonyms. The need for a reduced realization of the MPs might be a result of the presence of a competing interpretation as an adverb.

Further, the often noted inability to carry sentence stress might be due to an incompatibility with the meaning expressed by main sentence stress, i.e. the meaning of alternative focus such as contrast, cf. Gutzmann (2009) for an analysis in which he argues that the syntactic and phonological properties of MPs follow from their semantic properties<sup>3</sup>. Sentence stress on *JA* and other MPs such as *BLOß* and *NUR*, which Thurmair (1989) labelled *emphatic* stress, has been argued to be an instance of Verum-focus, cf. analyses by Gutzmann (2010) for *JA*, Zimmermann and Egg (2012) for *DOCH* and (Zimmermann, 2008) for *WOHL*. Coniglio (2011) also argues that stressed MPs in Italian express a stress on the truth of the propositions, i.e. express Verum-focus.

It has been argued that Verum-focus is a special, non-contrastive, type

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tion, the pronoun or the determiner may appear reduced, i.e. *sie* might be pronounced as [ˈhat.s[ə]] in the string *hat sie* and determiner *das* as [ˈs] in the string *ans*, i.e. *an das*. If the determiner or pronoun occur as individual words, the vowel in the nucleus cannot be a reduced [ə], or even omitted in the case of *das*, but must be pronounced with a full vowel.

<sup>3</sup>Gutzmann (2009) analyses MPs as use conditional expressions. Their meaning contribution is not part of the proposition and thus operations that apply on the level of the proposition cannot apply to the MPs, e.g. MPs cannot be the target of focus as an expression of alternatives. As a consequence thereof, MPs cannot be contrasted and also not carry stress as an expression of focus.

of focus, cf. Höhle (1992), as well as Gutzmann et al. (2017). Differentiating between Verum-focus and other instances of focus, i.e. that mark alternatives, contrast or correction, might account for the contradictory claims about MPs and their ability to be stressed. Additionally, a semantic account of why MPs cannot carry sentence stress, other than as an expression of Verum-focus, is compatible with the observation that nothing should prevent MPs from carrying word or sentence stress based only on their phonological properties, as discussed in this section.

#### 3.1.2. Syntactic properties

In the following section, I will address some syntactic properties that are used to classify elements as MPs in German, but also used to delimit them from other types of words, mainly sentence adverbs. However, to most of these properties there are at least some exceptions, which also will be addressed.

One syntactic property of MPs frequently mentioned in the literature on German MPs as a means to distinguish them from sentence adverbs is their restriction to certain positions in the clause, e.g. the German MPs can only occur in the middle field (IP-domain), cf. (51a and c). Other positions, such as the sentence initial (specifier) position is only available to sentence adverbs, as shown in (51b and d), examples from Coniglio (2008, 14).

- (51) a. *Katharina hat ja schon eine Wohnung in Heidelberg*  
 K. has JA already an apartment in H.  
*gefunden.*  
 found  
 Katharina has already found an apartment in Heidelberg, as you know.
- b. *Katharina hat wahrscheinlich schon eine Wohnung in*  
 K. has probably already an apartment in  
*Heidelberg gefunden.*  
 H. found  
 Katharina has probably already found an apartment in Heidelberg.
- c. \* *Ja hat Katharina schon eine Wohnung in Heidelberg*  
 JA has K. already an apartment in H.  
*gefunden.*  
 found

- d. *Wahrscheinlich hat Katharina schon eine Wohnung in*  
 Probably has K. already an apartment in  
*Heidelberg gefunden.*  
 H. found

The possibility to occur in a sentence initial position is also used as a diagnostic to distinguish MPs from their homonymic counterparts, cf. (52), in which only *vielleicht* in the middle field, i.e. (52a), can receive the MP meaning. In (52b) only the adverb meaning is possible.

- (52) a. *Er ist vielleicht blöd!*  
 He is VIELLEICHT stupid  
 Isn't he stupid!
- b. *Vielleicht ist er blöd.*  
 possibly is he stupid  
 He might be stupid.

The MPs can only occur in a sentence initial position if they co-occur with a *Wh*-phrase, cf. (53) from Bayer and Obenauer (2011, 471) their example (48).

- (53) *Wer denn soll lesen, was ich in diese Hefte schreibe?*  
 Who DENN should read what I in these copy-books write  
 Who is then supposed to read what I write in these copy-books?

However, Meibauer (1994) argues that this ability to co-occur with a *wh*-element in the initial position is not unique for MPs, but also applies to some sentence adverbs, cf. (54) from Meibauer (1994, 60).

- (54) *Wer vermutlich wird sich auf die Stelle bewerben?*  
 Who possibly will REFL on the position apply  
 Who will possibly apply to this position?

In other languages, e.g. Italian and Romanian, the MPs are not restricted to the middle field, but can also occur in the sentence initial position, cf. (55) from Coniglio and Zegrean (2010, 15) for a Romanian sentence with a sentence initial or medial MP.

- (55) *⟨Doar⟩ de mâine cineva va veni ⟨doar⟩ cu o  
DOAR from tomorrow somebody will come.up DOAR with a  
soluție.  
solution*

From tomorrow somebody will (evidently) come up with a solution.

One further syntactic property frequently mentioned is that the MPs cannot be coordinated or modified, cf. example (56) from Coniglio (2008, 29-32).

- (56) a. *Trinken Sie doch (\*und) mal ein Bier!*  
Drink you DOCH and MAL one Beer
- b. *\*Trinken Sie sehr mal noch ein Bier!*  
Drink you very MAL one Beer

However, Ormelius-Sandblom (1997, 43) points out that this impossibility to be modified also holds for some adverbs, e.g. *sicherlich*, in German, cf. (57).

- (57) *\*Er kommt sehr sicherlich morgen zu Besuch.*  
He comes very certainly tomorrow to visit  
He will very certainly visit us tomorrow.

A further syntactic property of MPs frequently stated is that they cannot form answers to questions, cf. (58) from Coniglio (2008, 30) and Thurmair (1989).

- (58) A: *(Wie) kann ich noch ein Bier trinken?*  
how can I drink yet one beer  
(How) can I drink yet an other beer?
- B: *\*Mal!*  
MAL

However, it must be noted that some MPs that can occur in combination with Verum-focus, e.g. *DOCH*, can also occur as answers, cf. example (59) from Zimmermann and Egg (2012, 8).

- (59) A: *Hast du keinen Hunger?*  
have you no hunger  
Aren't you hungry?
- B: *DOCH!*  
DOCH  
Well, in fact, I am.

### 3.1.3. Intermediate summary

The discussion of the phonological properties showed that the claim that MPs in German are always unstressed is too vague. First, it needs to be specified what is meant by ‘unstressed’, as it showed that mono-syllabic MPs, such as *ja*, often appear unstressed whereas bi- and polysyllabic MPs carry word stress but not sentence stress. Further, some MPs can carry sentence stress as an expression of Verum-focus.

A closer inspection of the syntactic properties often ascribed to German MPs show that only one property seems to hold for all MPs: their restriction to the middle field, at least to the extent that they cannot occur on their own in any other position, i.e. clause initially or finally. This criterion is applicable in German, but, as Coniglio and Zegrean (2010) argue, it does not apply to Italian and Romanian MPs, as these MPs also occur sentence initially. The other properties discussed do, on the one hand, not apply to all MPs, such as the (in-)ability to form answers, and, on the other hand, do not apply only to MPs, as the inability to be coordinated or modified. Thus the only syntactic property any syntactic analysis of MPs in German necessarily must be able to account for is their restriction to the middle field.

## 3.2. Analyses of the MPs based on the above mentioned properties

The properties of the MPs listed above are used to argue for different syntactic analyses of the MPs in German. On the one hand, the data is taken as evidence for the syntactic status of MPs as syntactic heads, and on the other hand as deficient phrasal elements. In the following two sections I will review two analyses, one in favour for each status. The latter analysis also addresses the relation between MPs and their homonyms, i.e. in particular adverbs. Further, I will also address the question of how the MPs are integrated into the clause.

### 3.2.1. MPs as heads

All the above stated properties have been used as criteria to identify MPs as syntactic heads. Bayer and Obenauer (2011) claim that the phonological

property of being unstressed is compatible with an analysis of the MPs as syntactic heads. However, in section 3.1.1, it was shown that not all MPs in German are inherently unstressed, but some carry word stress and others even sentence stress. Further, it is unclear how the syntactic status of a head leads to the phonological property of not being able to carry stress.

The strongest argument in favour of the head-status of MPs in German comes from their restriction to the middle field of clauses. This is also the property that makes the MPs stand out from their homonyms of other word classes, such as adverbs. The sentence initial position is reserved for phrasal elements, i.e. if the MPs are heads, they must be banned from the initial position, whereas the adverbial homonyms of the MPs can occur in this position, cf. (51) in which the MP *ja* is banned from the sentence initial position and (52, in which *vielleicht* only receives the MP-reading in the middle field domain, but the adverb reading in the initial position. One additional argument for the head-status of the German MPs is, according to Bayer and Obenauer (2011), that the MPs can merge with a *Wh*-phrase and move with this phrase to the sentence initial position, cf. (53). However, as pointed out by Meibauer (1994), this is also possible for sentence adverbs, cf. (54) above.

Even though a head status of the MPs might account for their restriction to the middle field, there is one problem with the analysis of MPs as heads in German: They do not interfere with verb-movement in matrix clauses. Assuming that MPs occur as heads in a position above the VP, it can be expected that they block verb movement in a similar way as negation in English, cf. Radford (2009). This is, however, not the case. The problem can be dealt with in different ways. On the one hand one can assume that verb movement is not head movement, cf. Müller (2004) or, on the other hand, argue that MPs are of a type of head that does not interfere with the head-movement of the verb. This is assumed by Bayer and Obenauer (2011). They analyse MPs as minor functional heads in the sense of Rothstein (1991), i.e. heads that do not project categorical features. Instead, the MP merges with the VP. The resulting particle phrase, PartP, does not differ from the VP with respect to syntactic features, but only semantically and phonologically. The lack of syntactic features renders the MP invisible to the verb, and hence it cannot interfere with verb movement, cf. Bayer and Obenauer (2011, 460). However, it is left unclear how such an analysis would account for cases where



a DP intervenes between the verb and the MP in the middle field, which is a grammatical linearisation in German, cf. (60) from Bayer and Obenauer (2011, 456) their example(9).

- (60) *Wann könnte Otto den Brief nur gestern mit ins Büro*  
 When could Otto the letter NUR yesterday with in office  
*genommen haben?*  
 taken have  
 When could Otto possibly have taken the letter to the office yesterday?

This linearisation would imply a split of the PartP somewhere later in the derivation. However, this problem is not addressed in the analysis by Bayer and Obenauer (2011).

The discussion of the analysis of German MPs as heads shows that a head-status can account for the restriction of the MPs to the middle field, but it is also problematic, as it must make the additional assumption of invisible heads in order to account for the lack of verb blocking. Further, it is unclear how it accounts for intervening DPs in the middle field. As this account leaves some questions open, other options must be considered as possible analyses of the MPs. In the next section I will turn to an optional analysis of MPs as deficient phrases.

### 3.2.2. MPs as deficient phrases

An observation often stated in the literature on MPs is that they have homonyms in other word classes, (primarily adverbs), cf. Thurmair (1989) among others. Some analyses, such as Abraham (1991), Grosz (2005), Cardinaletti (2007), Coniglio (2011), claim that the MPs are derived from their homonymic counterparts and are the result of a process of grammaticalization of lexical words, i.e. a grammaticalization of adverbs and adjectives to functional words. One argument in favour of this assumption is that MPs display properties that are typical for grammaticalized words such as a loss of lexical value and a more restricted syntax compared to their lexical counterparts, cf. Abraham (1991).

The hypothesis that the MPs are derived from other word classes, primarily adverbs, is reflected in an approach to the syntax of the MPs developed by Grosz (2007), Cardinaletti (2011, 2007) and Coniglio (2011) for German (and to some extent Italian) MPs. The basis for this analysis lies in an account of

pronouns by Cardinaletti and Starke (1994). They categorize pronouns into three classes: strong, weak and deficient, and each class has its own unique syntactic and phonological properties. Grosz (2007) proposes that the German MP are weak elements as they display the same features as weak pronouns as described by Cardinaletti and Starke (1994). The Viennese German particle *dn* is analysed as a clitic due to the similarity to clitic pronouns. Coniglio (2011) and Cardinaletti (2007) both analyse German and Italian MPs along the same lines as Grosz (2007) and propose that German and Italian MPs are weak elements. The special syntactic and phonological properties of MPs are assumed to be reflections of their syntactic status: weak or clitic elements are deficient phrases derived from full (primarily adverbial) phrases and thus display other properties than full phrases. In the next section I will present the details of these accounts.

#### Derivation of deficient phrases

In the accounts by Grosz (2007), Cardinaletti (2011) and Coniglio (2011), MPs are assumed to be the result of a structure deletion applied to a full phrase, i.e. a reduction of the phrasal structure of an adverb phrase, resulting in a deficient phrase.

Cardinaletti (2011) proposes that the deficient MP-phrases are derived from their full counterparts by a synchronic process of structure deletion, which happens in the clause on construction. If this derivation is a synchronic process, it is expected that the MPs cannot co-occur with their full adverb counterparts. This is indeed stated to hold for both the Italian and German MPs in Cardinaletti (2011), but data claiming the opposite (at least for German MPs) are given by Struckmeier, cf. (61) from Struckmeier (2014, 22).

- (61) *Du kannst das SCHON schon machen. (Aber...)*  
You can      that MP      already make      (but)  
You could actually do that now. (But...)

A second possibility to derive the deficient status of the MPs is by grammaticalisation over time. This approach is proposed by many scholars, among others Abraham (1991), Meibauer (1994), Ormelius-Sandblom (1997), and Coniglio (2011). Such an approach is compatible with the two stages of deficient elements, i.e. weak elements are not as strongly grammaticalized as clitic elements. However, the process of grammaticalization implies that there

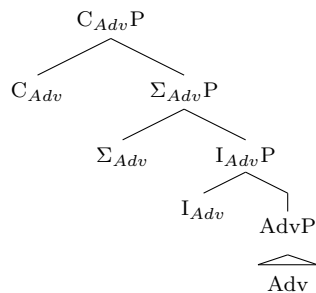
is a shift of meaning or usage of the lexical base element, i.e. from the adverb to the MP. It is unclear how such an analysis of the MPs can account for the co-existence of weak and phrasal versions of one MP, as in the case of the MPs *denn*, as well as its clitic counterpart (e.g. *dn*) without any display of lexical or usage based differences. Further, one additional argument against an analysis of MPs as deficient adverbs is pointed out by Struckmeier (2014): not all MPs have homonyms in the class of adverbs, but some MPs are derived from adjectives, such as *eben* and *halt*, and it is unclear how this could be accounted for in Cardinaletti's (2011) analysis.

### The structure of deficient phrases

Independent of whether the deficient structure is a result of a synchronic structure deletion or a process of grammaticalization, the analysis of Grosz (2007) and Cardinaletti (2011) assume the same structure of the deficient phrases and both argue that a structural deficiency accounts for the peculiar syntactic and phonological properties of the MPs.

The full phrases from which the MPs are derived are assumed to contain four projections: the lexical projection (LP), an inflectional (IP), a prosodic ( $\Sigma$ P) and a peripheral projection (CP), cf. (62) from Cardinaletti (2011, 509).

(62) *Phrasal structure of a full phrase*



Full phrases, such as sentence adverbs, do not display any syntactic or phonological restrictions. They can carry word stress as well as sentence and contrastive stress, be coordinated and modified, and are flexible with respect to their position in the clause, as they occur sentence initially as well as in medial positions.

Syntactic deficiency is linked to a reduction of this structure and a loss of some of the features. Weak elements are assumed to lack the C-projection and, as a consequence thereof, they cannot be coordinated or modified, and

are banned from a sentence initial position. As the weak element comprises the  $\Sigma$ -Phrase, the weak phrase has some phonological values and thus may carry word stress, and in some cases even sentential stress. The only type of stress the MPs cannot carry is contrastive stress, cf. the discussion of phonological properties in section 3.1.1. Why contrastive stress should be linked to the C-projection and not the prosodic  $\Sigma$ -Phrase is left open in Cardinaletti's work. In section 3.1.1, it was argued that no aspect of the phonological properties of the MPs conclusively speak against sentence stress on the MPs, as they do carry stress in case of Verum-focus. Further, postulating that only weak phrases, due to a lack of syntactic structure, cannot be coordinated or modified, leads to some problems with sentence adverbs which are full adverb phrases in Cardinaletti's analysis. For instance, the German adverb *sicherlich* cannot be modified, as shown in (57), but it can occur in the sentence initial position. We do not wish to assume that *sicherlich* is a deficient adverb, even though it fulfils one criterion for this status. The reason for the inability to be coordinated or modified must not necessarily be linked to structural deficiency, but there might be semantic reasons for this restriction, cf. the analysis by Gutzmann (2009).

In section 3.1.2, I argued that the only property of MPs that a syntactic analysis needs to account for is their restriction to the middle field. The accounts of Grosz (2007) and Cardinaletti (2011) both link this restriction of the MPs to their deficient structure, but the accounts differ slightly with respect to the this property.

Cardinaletti (2011) assumes that the MPs are base generated in the position of the corresponding adverb. From this position the MP must move to a specifier position of a functional projection in the (Mood/Mod part) in the middle field as a result of their deficient structure. This movement accounts for their high position in the clause in comparison to their adverb counterparts, but does not explicitly address why the MPs are banned from a sentence initial position, except the general assumption that weak phrases are restricted to the middle field due to a lack of the C-projection.

Grosz (2007) takes a difference stance on the base generation of the MPs, and proposes that the deficient phrases are base generated in specifier positions of functional projections in the IP-domain, just as Cinque (1999) proposed for adverbs. Grosz (2007) assumes that the MP *denn* is base generated

in a position that is higher than the highest projection in Cinque's hierarchy. The weak phrase cannot move out the position in which it is base generated. The deficient phrase must compensate for its lack of features by entering into a local spec-head relation with the head of its hosting functional projection and thus surfaces in the position in which it is base generated. The assumption of this local relation explicitly bans the MP from moving out of the functional phrase and into the sentence initial position.

The most reduced type of phrase is the clitic type. It lacks the C-projection as well as the  $\Sigma$ -projection, encoding prosodic features. As a result, clitics are de-accentuated and cannot carry any stress, nor be coordinated, modified or occur sentence initially. Note that these are the same properties that are used to argue for a head analysis of the MPs. The difference between a head analysis and this analysis is that, in the accounts of MPs as deficient phrases, clitic MPs are not assumed to be syntactic heads but these elements, i.e. the most reduced type of a phrasal element, are assumed to be base generated in the specifier position of a functional projection. The MP can move out of this position by adjunction to a functional head, e.g. adjoin to a verb, and undergo head movement to the position of the finite verb, i.e.  $C^\circ$ , cf. Grosz (2007). This adjunction of the clitic phrase to the verbal head is motivated by a need to compensate for the clitic's lack of prosodic features.

### 3.2.3. MPs as adjuncts

In the syntactic analyses of MPs discussed so far, it is assumed that MPs occur in specific phrases, i.e. in the head of a PartP, cf. Bayer and Obenauer (2011), or in functional projections in the IP-domain, cf. Grosz (2007), Coniglio (2011) and Cardinaletti (2011).

However, in early syntactic accounts of MPs, they are frequently assumed to be adjuncts. The main argument for this is the fact that they are not a necessary part of the sentence, as they are not part of the argument structure of verbs, cf. Ormelius-Sandblom (1997). Ormelius-Sandblom (1997) proposes that the MPs *ja*, *schon*, *doch* are adjuncts to the VP. However, two problems arise with an adjunction analysis of the MPs: First, being able to adjoin to the VP, the MPs must also be phrasal. However, as we have seen above, MPs do not seem to be phrasal elements like the sentence adverbs, with the primary argument against a phrasal status being their ban from the sentence

initial position. Ormelius-Sandblom (1997), however, argues that the MPs are phrasal elements, and that the MPs are banned from the sentence initial position due to semantic reasons, but these reasons are not addressed any closer.

If the MPs are analysed as heads, the restriction from the sentence initial position is explained, but in this case the analysis of MPs as adjuncts is problematic for an other reason: a head must adjoin to another head. But, as pointed out by Coniglio (2011), there is no visible head in the IP-domain to which the MP can adjoin, except possibly the verb. But as MPs<sup>4</sup> do not appear as clitic on the verb, there is no evidence that the MPs adjoin to the verb.

### 3.3. Summary

In the sections above I have shown which properties, phonological and syntactic, are used to argue for a syntactic analysis of MPs with a non-phrasal status, i.e. in favour of analyses of the MPs as syntactic heads or deficient phrases.

Already the discussion of the properties showed that it is problematic to find criteria to define MPs as a uniform group. The discussion of their phonological properties showed that classifying MPs as unstressed words is problematic, as some MPs appear to be able to carry sentence stress (as an expression of Verum-focus) whereas others carry word stress, but not sentence stress. The discussion of the syntactic properties has its main intention to delimit MPs from sentence adverbs. It showed that of all the syntactic properties ascribed to the MPs, only the restriction to the middle field position holds for all MPs in German and delimits them from sentence adverbs. Other properties such as the inability to be coordinated or modified also holds for some adverbs, whereas the property of not being able to form a fragment answer only holds for some MPs. Thus, it shows that any analysis of MPs must be able to account for properties that are not as uniform nor unique to MPs as often stated.

In the latter part of this chapter, I have discussed the possibility to analyse the German MPs as heads or deficient phrases. Both analyses account for

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<sup>4</sup>Except clitic MPs, such as *'n* in Grosz (2007) analysis.

the peculiar syntactic and phonological properties of the MPs, but they also include some difficulties. The main problem with an analysis of the MPs as heads is that the MP, as a head in the middle field, should block verb movement of finite verbs in main clauses. As no such blocking is present, Bayer and Obenauer (2011) assume that MPs are invisible heads that merge with the VP, i.e. form a phrase with the same syntactic properties as the VP. However, it is unclear how this assumption would account for full DP subjects, i.e. phrasal elements, that intervene between the finite verb and the MP in the middle field in German.

The analyses of MPs as deficient phrases by Grosz (2007), Cardinaletti (2011) and Coniglio (2011) account for the phonological and syntactic properties of MPs under the assumption that MPs are derived from full lexical elements such as adverbs. Due to a structure deletion the MPs lack properties that full phrases normally display. The analyses allow for two types of MPs, weak and clitic, differing from each other with respect to their phonological and syntactic properties. They also allow us to distinguish between adverbs and MPs.

Even though the analyses offer accounts for the properties of MPs, some details appear stipulated, such as the correlation between a lack of a C-projection and the inability to be contrasted, coordinated or modified. It also leaves two questions open: First, it is unclear how sentence adverbs, i.e. full phrases, which share some properties with weak phrases, such as the inability to be modified, should be accounted for. Second, the exact nature of the process of structure deletion is unclear. Is it a synchronic process as Cardinaletti (2011) claims or a result of grammaticalization, cf. Coniglio (2011)? If the former assumption is true, it cannot account for co-occurrence of homonymic adverbs and MPs, but if the latter is true, the process of grammaticalization must allow for a co-existence of adverbs and MPs of two different types, weak and clitic.

In the next chapter, I will turn to the question how well these analyses carry over to the Swedish MPs. In the first section, I will discuss if and how the features presented in the first part of this chapter also apply to the Swedish MPs, i.e. do the Swedish MPs display any peculiar syntactic and phonological features which call for a unique syntactic analysis of the MPs compared to other word classes such as sentence adverbs? It will show that

only some of Swedish MPs differ from sentence adverbs with respect to some properties, mainly with respect to a restriction to the middle field. As a consequence thereof, none of the analyses presented in this chapter can be applied straightforwardly to all the MPs in Swedish. In the second part of the chapter I will present a syntactic analysis of the MPs, which draws from the analyses proposed for German MPs but differs in some respects.



## 4. The syntax of Swedish MPs

### 4.1. Properties of the Swedish MPs

In chapter 2 I summarized some findings about MPs used by Aijmer (1996), Lindström (2008) and Alm (2012) to identify MPs in Swedish, such as restriction to certain sentence types, their position in matrix clauses, and their inability to be stressed. Further, I argued that based on their properties, it is necessary to distinguish between two types of MPs, *ju* and *väl* on the one hand, and *visst* and *nog* on the other.

In this chapter, I will take a closer look at some additional syntactic and phonological properties, drawing from the set of criteria used to define MPs in German discussed in the previous chapter. The goal of this chapter is to, first, find commonalities and differences between German and Swedish MPs, and to find the set of properties that a syntactic analysis of MPs must be able to account for. Second, based on the findings, I will discuss to which extend any of the syntactic analyses of MPs in German can be transferred to Swedish. It will show that in order to account for two types of MPs in Swedish, differing with respect to their phonological as well as syntactic properties, the analysis of Grosz (2007), Coniglio (2011) and Cardinaletti (2011) offer a good starting point, and will also serve as a basis in the development of a syntactic analysis of the Swedish MPs. However, my proposal will differ in some aspects, as I will argue that the MPs *ju* and *väl* should be analysed as syntactic heads, and *nog* and *visst* as phrasal elements. I will assume that both types occur in functional projections in the IP-domain.

#### 4.1.1. Phonological properties

In section 3.1.1, I discussed the phonological properties of MPs in German. I showed that the frequent claim that MPs are unstressed does not always hold,

and that the term *stress* needs further specification. A closer inspection of the phonological properties showed that some MPs, such as bi-syllabic MPs, carry word stress whereas other MPs, such as *ja*, are often unstressed but also may occur with sentence stress as an expression of Verum-focus. In this section, I will turn to the Swedish MPs, and discuss their phonological properties in detail.

As in German, the possibility for a word to carry stress is determined by properties of its syllables. For Swedish, Bruce (1977) and Riad (2014) describe the following criterion to identify stressed syllables: Stress is related to the length of a syllable, i.e. long syllable is always stressed. A stressed syllable thus consists of either a long vowel followed by a short consonant (V:C), or if the vowel is short, the consonant must be long (VC:). Unstressed syllables consist of both a short vowel and short consonant. The MPs *nog* and *visst* both must be analysed as long syllables, as *nog* [nu:g] is pronounced with a long vowel and a short consonant, and *visst* [vist] with a short vowel and a long consonant, i.e. these MPs must be able to carry some level of stress. The MPs *ju* [jə] and *väl* [vɛl], are both pronounced with a short vowel and consonant (for *väl*) and thus are necessarily unstressed, i.e. cannot carry word or sentence stress.

According to Fuhrhop and Peters (2013) a word which carries word stress, must also be able to carry sentence stress. But as observed for the German MPs, it holds that none of the MPs can carry sentence stress in order to express contrast, and this seems to hold for the Swedish MPs as well, as they cannot be contrasted, cf. (63).

- (63) A: *Peter kommer visst imorgon.*  
Peter comes VISST tomorrow  
It seems as if Peter will come tomorrow.
- B: \**Nej, han kommer inte VISST utan NOG imorgon.*  
No Peter comes not *visst* but NOG tomorrow  
Intended meaning:# It does not **seem** that Peter will come tomorrow, but I **guess** that this is the case.

The usage of stress in the example above is an expression of contrast on the meaning of *visst* and *nog*, which cannot be achieved. The reason for their inability to be contrasted does, however, not necessarily follow from their phonological properties. Rather, given the assumption that Swedish MPs

make the same semantic contribution as German MPs, the inability to be stressed in order to express contrast might be motivated by their semantic properties, which cannot be contrasted, as proposed by Gutzmann (2009) for German MPs.

Further, the discussion of the German MPs showed that some MPs, such as *ja*, *doch* and *wohl*, can carry sentence stress as an expression of Verum-focus. The same holds for the MP *visst*, which may carry sentence stress when it occurs in a sentence medial position, cf. (64). This type of *visst* occurs only in cases of direct contrast between a preceding negative proposition and the proposition hosting *visst*, cf. Petersson (2006). It could thus also be analysed as an instance of Verum-focus on the MP, in line with the analyses of stressed German MPs. Obverse that in the example below, *VISST* would correspond to a German *DOCH*.

- (64) A: *Peter har inte köpt boken.*  
           Peter has not bought book.DEF  
           Peter has not bought the book.
- B: *(Jo,) Peter har VISST köpt boken.*  
           Peter has VISST bought book.DEF  
           Peter HAS indeed bought the book.

However, as stated in chapter 2.3.3, this instance *VISST* might possibly be of a different lexical element, i.e. not simply a stressed version of the MP, as it also occurs in a lower position in the clause than the MP *visst* with only word stress. This is demonstrated in (65), (example (45) repeated for convenience) where the *VISST* must be preceded by the sentence adverb *antagligen* (=probably). The lower position is not available for the unstressed *visst*.

- (65) A: *Jag trodde inte att Peter kommer imorgon.*  
           I believed not that Peter comes tomorrow  
           I didn't believe that Peter will come tomorrow.
- B: *Men, Peter kommer ⟨\*VISST⟩ antagligen ⟨VISST/\*visst⟩ i*  
           but Peter comes VISST<sub>VF</sub> probably VISST<sub>VF</sub>/*visst* in  
           *morgon.*  
           tomorrow  
           But Peter WILL probably come tomorrow anyway.

The same observation that Verum-focused MPs occur in a lower position than their unstressed counterparts is made by Coniglio (2008). He notes that the stressed *JA* occurs following the MP *auch*, which is not possible for the unstressed MP *ja*, cf. (66), drawing from an example from Meibauer (1994, 140). The stressed version of the MP *doch*, i.e. *DOCH* also is claimed to appear in a lower position than the unstressed version, cf. Coniglio (2008, 118).

- (66) a. *Der hat ja auch seine Hausaufgaben schon gemacht.*  
he has JA also his homework already done  
He has, as you know, already done his homework.
- b. *Mach auch JA deine Hausaufgaben!*  
do also JA your homework  
You better do your homework.

The position of the Verum-focused MP will not be addressed any further, but it should be noted that this could serve as an indication that either these occurrences are not MPs, or that the relation between Verum-focus, or sentence stress, and the position of the MP is more intricate than previously noted.

It is important to note that sentence adverbs in Swedish cannot carry sentence stress in order to express Verum-focus, but can only carry sentence stress as an expression of contrast, cf. the dialogues in (67) and (68), in which no polarity focus is possible in the utterances by B, but only the meaning of the adverb is stressed.

- (67) A: *Peter kommer kanske imorgon.*  
Peter comes maybe tomorrow  
Peter will maybe come tomorrow.
- B: *Nej, han kommer inte KANSKE utan SÄKERLIGEN imorgon.*  
No Peter comes not maybe but surely  
tomorrow  
No, Peter will not maybe but surely come tomorrow.
- (68) A: *Peter kommer inte imorgon.*  
Peter comes not tomorrow  
Peter will maybe come tomorrow.

- B: *Jo, han kommer ANTAGLIGEN imorgon.*  
       he comes probably tomorrow  
       Yes, he will probably come tomorrow.

To summarize this discussion of the phonological features of the MPs in Swedish, it shows that the MPs fall into two types with respect to their phonological properties: the MPs *nog* and *visst* show patterns of stressed syllables, i.e. carry word stress (and word accent<sup>1</sup>), whereas *ju* and *väl* are unstressed syllables.

### 4.1.2. Syntactic properties

#### Initial vs medial position

For German MPs it holds that they are restricted to a middle field position. In chapter 2.3.2, I discussed at length that this also applies to the Swedish MPs *ju* and *väl*, whereas the MPs *nog* and *visst* occur in the sentence medial as well as the sentence initial position, cf. (69) below, repeated from (42) for convenience.

- (69) a. *Peter har ju/väl/nog/visst läst boken.*  
       P. has JU/VÄL/NOG/VISST read book.DEF  
       Peter has read the book, as you know/hasn't he/I guess/it seems.
- b. {*\*Ju/\*Väl/Nog/Visst*} *har Peter läst boken.*  
       JU/VÄL/NOG/VISST has P. read book.DEF  
       Surely Peter has read the book.

One further observation about the sentence initial *nog* and *visst* is their effect on the word order when *nog* or *visst* surface sentence initially. The movement into the sentence initial position requires the subject of the clause to surface following the finite verb in second position, i.e. in an IP-internal position, cf. (70).

- (70) a. {*Nog/Visst*} *har Peter läst boken.*  
       NOG/VISST has P. read book.DEF  
       Approx: *Surely Peter has read the book.*

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<sup>1</sup>Word stress is a prerequisite for word accent in Swedish. There are two types of word accent in Swedish, expressed by tone. Tonal distinction will not be of any interest in this work, but interested readers are referred to Bruce (1977).

- b. \* {*Nog/Visst*} *Peter har läst boken.*  
       NOG/VISST P.      has read book.DEF

Thus, these MPs have the same effect on the word order as any other phrasal element in the CP. This is demonstrated below for the sentence adverbs *antagligen* (=probably), cf. (71). However, there is no difference in the strength in these utterances, as was claimed to be possible with the MPs.

- (71) a. *Peter läser antagligen tidningen i köket.*  
       Peter reads probably newspaper.DEF in kitchen.DEF  
       Peter probably reads the newspaper in the kitchen.
- b. *Antagligen läser Peter tidningen i köket.*  
       probably reads Peter newspaper.DEF in kitchen.DEF  
       Peter probably reads the newspaper in the kitchen.

### Coordination and modification

In section 3.1.2 it was claimed that German MPs cannot be coordinated or modified. This inability to be coordinated or modified also holds for the Swedish MPs, cf. (72a-c) and (73a-c). However, as in German, the same is true for some adverbs in Swedish, cf. (72d) and (73d).

- (72) a. \* *Han är väldigt ju/väl där.*  
       he is very JU/VÄL there  
       Intended meaning: As you know very much, he is there./ I suppose very much that he is there.
- b. \* *Peter har väldigt nog köpt boken.*  
       Peter has very NOG bought book.DEF  
       Intended meaning: *I very much assume that Peter has bought the book.*
- c. \* *Peter har väldigt visst köpt boken.*  
       Peter has very VISST bought book.DEF  
       Intended meaning: *It very much seems that Peter has bought the book.*
- d. \* *Han är väldigt tydligen där.*  
       he is very obviously there  
       Intended meaning: *He is very obviously there.*

Further, in example (73) it is shown that different types of MPs cannot be coordinated, nor can two MPs of the same type.

- (73) a. \* *Han är ju/väl och nog/visst där.*  
           he is JU/VÄL and NOG/VISST there
- b. \* *Peter har nog/ju och visst/väl köpt boken.*  
       Peter has NOG/JU and VISST/VÄL bought book.DEF
- c. \* *Peter har nog/visst och antagligen köpt boken.*  
       Peter has NOG/VISST and probably bought book.DEF
- d. \* *Han är tydligen och kanske där.*  
       he is obviously and maybe there

As this restriction on coordination and modification also applies to some sentence adverbs, we can conclude that it is not related to any specific phrasal structure of the MPs. In stead, it is possible to assume that these inabilities are linked to the semantics of these words. A modification of a MP must apply to the meaning of the MP, but as the translations show, the resulting meaning of a modified MP is implausible. The same holds for a modification of the sentence adverb *tydligen* (=obviously).

### Possibility to form answers

One frequently mentioned property of German MPs as well as of the Swedish MPs *ju*, *väl* and *nog* is their inability to constitute well-formed fragment answers to questions, cf. (74b), whereas it is possible for adverbs to form fragment answers, as is observed in Lindström (2008, 96) and shown in (74c).

- (74) a. *Kommer Anna på besök idag?*  
           Comes Anna on visit today  
           Will Anna visit us today?
- b. \**ju/ \*väl/ \*nog/*  
       JU/ VÄL/ NOG/
- c. *Kanske/ troligtvis /antagligen.*  
       perhaps likely probably

There is one important observation to make regarding MPs as answers. None of the MPs in (74) can carry sentence stress (for *nog*) or word stress (for *ju* and *väl*). If they were to stand alone, sentential stress would be required, but since this is not possible, it is expected that the MPs cannot occur as fragment answers without any additional phonological material in the sentence. However, I also argued that there are no phonological restrictions as to why MPs should not be able to carry sentence stress and also form fragment answers. The reason might, as with coordination and modification, lie elsewhere.

The only MP which can occur in a fragment answer is *visst*, cf. (75). However, in section 2.2.3, I argued that this *visst* should perhaps rather be classified as a response particle and not as a MP, as the response *visst* is an affirmative answer and does not share any of the evidential meaning of the MP, which is present in a full sentence, cf. (75b) and (75c).

- (75) a. *Kommer Anna på besök idag?*  
 Comes Anna on visit today  
 Will Anna visit us today?
- b. *(Ja,) visst!*  
 yes, VISST  
 Yes, of course!
- c. *(Ja,) det gör hon visst!*  
 yes, it does she VISST  
 Yes, it seems as if she does.

It is, however, worth noting that *visst* also is the only MP that possibly can co-occur with Verum-focus. However, the fragment answer *visst* and a sentence with Verum-focused *VISST* differ with respect to their context conditions. The answer *visst* in (75b) does not require the preceding utterance to be negative, but serves as a positive answer to any question. Verum-focused *VISST* only occurs in immediate contrast between two propositions only differing with respect to their polarity, i.e. it can occur in negative or positive propositions. Above I argued that the Verum-focused *VISST* might not be an MP, and that the response particle might not either. However, it is interesting to note that the same correlation between a possibility to express Verum-focus and the ability to form fragment answers seem to hold for the



German MPs as well<sup>2</sup>. In how far these two properties are related will not be discussed any further, but it gives support to the assumption that the (in-)ability to carry stress is not linked to the phonological properties of the MPs, but rather to the semantic meaning expressed by stress, i.e. alternative focus.

To conclude this section, using the criteria of forming fragment answers does not offer any conclusive arguments for the syntactic status of the MPs.

### Derivation

An additional property Cardinaletti (2011) assumes to be related to the structural status of the German MPs is the inability of a MP to co-occur with their adverbial counterparts, as discussed for German in section 3.2.2. It was argued that the MPs are derived from adverbial counterparts by a synchronic structure deletion and, as a result thereof, cannot co-occur with the homonymic adverb. However, in Swedish the MPs can co-occur with their adverb homonyms, cf. (76) with *väl* and *nog*, for which adverb counterparts with distinct lexical meanings exist. The same was argued to hold for German MPs by Struckmeier (2014), as discussed in section 3.2.2.

- (76) a. *Han vill väl väl.*  
           He wants VÄL good  
           He wants to do good, doesn't he?
- b. *Det får nog vara nog med exempel idag.*  
           It may NOG be enough with examples today  
           I assume that that will be enough examples for today.

It is important to note that, in these examples, the first occurrence of *väl/nog* is phonologically less prominent than the second instance, which carries sentence stress, and only the first instance can be interpreted as the MP, i.e. in example (76) only the leftmost occurrence receives the MP reading. The

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<sup>2</sup>The stressed *DOCH* in German, occurring as an answer particle, must be translated as a *jo*.

- A: SW: *Han kommer inte*/ GER: *Er kommt nicht*  
       He is not coming.
- B: SW: *jo* ['ju:]/ GER: *DOCH*.  
       He DOES!

MPs must precede the adverb and this holds when occurring with an adverbial counterpart as well as in relation to any other sentence adverb. This also means that if a homonym to a MP occurs below an adverb, it cannot be interpreted as a MP but only as an adverb, cf. (77). The instance of *väl*, occurring below the negation, can only be read as the adverb meaning *well*. The same holds for *nog* occurring in the VP, as in (77b), which can only express the adverb meaning *enough*.

- (77) a. *Han menar inte väl.*  
He means not good  
He does not mean well.
- b. *Han kan inte få nog av glass på sommaren.*  
He can not have enough of ice cream in summer.DEF  
He cannot get enough of ice cream in the summer.

The MP *visst* has no clear adverb counterpart but rather an adjective correspondent, i.e. *visst* is also the neuter singular form of the adjective *viss* (=certain). As an adjective, it does not occur in the middle field, but in the DP, cf. (78).

- (78) *Maneten lyser grönt in ett visst ljus.*  
Jellyfish.DEF glows green in a certain light  
The jellyfish glows green in a certain type of light.

A homonym to the MP *ju* can occur preceding a comparative adjective, e.g. in the construction *ju...desto*, cf. (79).

- (79) *Ju fler böcker hon läser, desto klokare blir hon.*  
JU more books she reads DESTO wiser gets she  
The more books she reads, the wiser she gets.

In this position and with this meaning, *ju* is not to be analysed as a MP. It is however, noteworthy that this instance of *ju* also is unstressed and the stress falls on the following adjective.

On the basis of the observations above, I conclude that the MPs in Swedish are not subject to a synchronic structure deletion, as Cardinaletti (2011) proposed for German MPs. The MPs might have developed from adverbs, adjectives and such but are now at a stage where they have reached lexical and

structural independence. Further, the property of co-occurrence is not conclusive with respect to the syntactic status of the MPs, but rather only serves to determine if MPs are a result of a synchronic process of structure deletion or not.

Overall, it shows that the only property where the MPs show a peculiar behaviour, and which makes them stand out from sentence adverbs, is with respect to their position, and this only applies to *ju* and *väl*. The MPs *nog* and *visst* rather show a sentence adverbial behaviour with respect to their syntactic properties, but as they do differ on the level of semantics, I will still include these in my syntactic analysis, and it will show that they are to be distinguished from sentence adverbs also in the level of syntax, with respect to their distribution in the middle field of main clauses.

## 4.2. Phrasal status of the Swedish MPs

The properties discussed above are used to argue in favour of a particular syntactic structure of the German MPs, i.e. as heads, cf. Bayer and Obenauer (2011) or as deficient phrases, cf. Grosz (2005, 2007), Coniglio (2011) and Cardinaletti (2011). In the following section, I will evaluate the strength of the different properties as arguments for a certain syntactic structure and discuss how the analyses carry over to the Swedish MPs based on these properties.

The Swedish and German MPs show some similarities, as they cannot be coordinated, or modified. The criteria of possible modification or coordination are used to argue in favour of a weak phrasal status of the MPs by Grosz (2007), Coniglio (2011) and Cardinaletti (2011). It is impossible for all German as well as Swedish MPs to coordinate or be modified. However, it was shown in (57), (72) and (73) this also applies to some sentence adverbs, which are assumed to be phrasal elements. Thus, I argue that these criteria are not fit to conclusively determine the syntactic status of any element.

The phonological property of being unstressed was used to argue in favour of an analysis of the MPs as heads as well as deficient phrasal elements in German. However, the previous discussion showed that the MPs are not as unstressed as often claimed. First of all, the MPs *nog* or *visst* are not unstressed elements, but both have the same syllabic weight, i.e. contain stressed syllables, and as such should be able to carry word and sentence

stress. Sentence stress is possible for *visst* only as an expression of Verum-focus, whereas any other usage of stress, i.e. to express contrast, is not possible for any of these MPs. Further, from a phonological point of view it is expected that these MPs, carrying word stress, also are able to carry sentence stress. Thus, the inability to carry sentence stress to express contrast does not seem to be linked to the phonological properties of *nog* or *visst* but rather linked to the semantics of contrast and the meaning of MPs being incompatible. This phonological property could however, be an indication of a weak structural status, if following the analyses by Grosz (2007) and Cardinaletti (2011).

The MPs *ju* and *väl* are inherently unstressed. This phonological feature has been related to their syntactic status in all the discussed analyses above, Bayer and Obenauer (2011) claimed that it fits to an analysis as heads, and Grosz (2007) used it to classify the particle *dn* in German as a clitic phrase. Thus, from a phonological perspective, any of these two analyses could be applied to the MPs *ju* and *väl*. It must be noted that even though the phonological property might be compatible with the status of a head/clitic phrase, I will base my assumption solely on the syntactic property of these MPs, as I above argued that it is difficult to link a phonological property to a specific syntactic status.

In section 3.1.2 I argued that the only property a syntactic analysis of the MPs must account for is the restriction to the middle field. This is also the only property that applied to all German MPs, and is used in favour of analyses of the German MPs as heads as well as a deficient phrasal elements. Reviewing the position of Swedish MPs in the clause, it shows that the MPs *nog* and *visst* occur in sentence initial as well as a medial position. They cannot be analysed as heads nor as deficient phrases but must be regarded to be full phrases. The MPs *ju* and *väl* are banned for the initial position and it is thus possible to assume that they either have a deficient phrasal structure or are syntactic heads.

However, I have argued that the Swedish MPs should not be analysed as derived from adverbs by a synchronic structure deletion, motivated by co-occurrence of MPs and homonymic adverbs. Further, as not all MPs have adverb counterparts, it is somewhat implausible to account for the occurrence of an MP as a structurally deficient adverb. As a result of this, the theoretical motivation to assume a deficient syntactic structure of the MPs is removed.

Note however, that I do not argue against the assumption that MPs have been derived from other word classes at some point, but I do assume that they now have reached an independent status as MPs. Ruling out synchronic structure deletion leads me to the assumption that the MPs *ju* and *väl* are not deficient adverbs of any type, but syntactic heads.

However, it is important to note that my proposal differs from the analysis of MPs by Bayer and Obenauer (2011) in one aspect. They argued that a head status of German MPs is problematic as they do not interfere with the movement of the verb, and as a solution they assumed that the MPs are invisible heads, which cannot block verb movement. In Swedish it is not necessary to assume any invisible head status of the MPs. As I will show in the following sections, these MPs do not block verb movement, but the position of the MP is dependent on verb movement. I will argue that these MPs are heads that adjoin to the verb as it moves through the head of the phrase in which the MP occurs, and as a result they appear to be clitics on the finite verb.

To summarise this evaluation, it shows that, based on their syntactic properties, the MPs *nog* and *visst* cannot be analysed as heads or weak phrases, but rather display properties of full phrases. The MPs *ju* and *väl* I will analyse as syntactic heads that behave as clitic elements, i.e. they show syntactic properties of heads and the phonological properties of clitics.

### 4.3. MPs in the clause structure

In the first part of this section, the analysis of MPs as phrasal and head-elements will be extended to a discussion about their integration into the clause. In the second part, the analysis of the syntactic status of the MPs based on their syntactic properties will be further motivated as data from matrix and subordinate clauses will offer further support for a head-status of *ju* and *väl*.

Concerning their integration into the clause, I will, in line with the analyses of the German MPs by Grosz (2007) and Coniglio (2011), assume that the MPs are base generated in high IP-positions. This high position of the projections hosting MPs is evident in the linearisation of MPs and sentence adverbs. As stated in section 2.3.2, the MPs must occur in the left part of the middle field,

i.e. above any sentence adverb, cf. (80), repeated from (41c).

- (80) *Peter har (\*antagligen) ju/väl/nog/visst (antagligen) läst*  
P. has probably JU/VÄL/NOG/VISST probably read  
*boken.*  
book.DEF  
Peter has read the book.

In order to detect the ordering of these phrases, and the number of phrases necessary to assume, I will first discuss the linearisation and combinations of the MPs. Once the position of the MPs in the clause is established, I will present additional arguments for the syntactic statuses of the MPs by discussing differences in matrix and subordinate clauses.

### 4.3.1. Linearisation and combinations of the MP

Reviewing the linearisation and possible combinations of MPs we are able to observe the internal ordering of the phrases and I will argue that they occur in three distinct projections in the IP-domain.

#### Combination of the MPs

The particles the MPs *ju* and *väl* can co-occur with the MPs *nog* and *visst*. The former two MPs have to occur to the left of the latter two, cf. (81) and (82).

- (81) a. *Han har ju nog/visst redan läst tidningen.*  
he has JU NOG/VISST already read paper.DEF  
*ju nog:* As you know, I assume that he has already read the paper.  
*ju vist:* As you know, it seems that he has already read the paper.
- b. \**Han har nog/visst ju redan läst tidningen.*  
he has NOG/VISST JU already read paper.DEF
- (82) a. *Han har väl nog/visst redan läst tidningen.*  
he has VÄL NOG/VISST already read paper.DEF  
*väl nog:* We can assume that he has read the paper, can't we?  
*väl vist:* It seems that he has read the paper, doesn't it?
- b. \**Han har nog/visst väl redan läst tidningen.*  
he has NOG/VISST VÄL already read paper.DEF

These examples show that when combined, the MPs *ju/väl* must precede *nog/visst*. I assume that this linearisation shows that the MPs *ju* and *väl* occur in projections higher in the IP-domain than *nog* and *visst*.

**ju väl** A combination of MPs *ju* and *väl* is only (marginally) possible.

In earlier work (Scherf, 2017), I claimed that *ju* and *väl* cannot co-occur in one utterance and suggested that there are syntactic reasons for this, i.e. that these MPs occur in the same functional projection. However, it has been pointed out to me by Patrick Grosz (p.c.) that these MPs do co-occur. This is only possible in a very restricted set of contexts, such as in example (83). Here it is expressed that there is a weak commitment to the proposition (by the speaker, or speaker and addressee) and this is known to both speaker and addressee.

- (83) *Det är ju väl bryggan man anar där borta.*  
 it is JU VÄL pier.DEF one discern there away  
 It is the piers that one can discern over there, isn't it?

Such a combination is only possible in contexts in which the utterance can receive the reading: there is a weak commitment to *p* and this is known, i.e. *ju* scopes over *väl*. However, these data show that a combination of *ju* and *väl* is not restricted by syntax, but rather the semantic nature of the MPs presupposes a very specific type of context for these MPs to co-occur.

**nog visst** Combining *nog* and *visst* in the middle field position results in an unacceptable sentence, cf. (84).

- (84) a. \**Han har nog visst redan läst tidningen.*  
 he has NOG VISST already read paper.DEF  
 b. \**Han har visst nog redan läst tidningen.*  
 he has VISST NOG already read paper.DEF

Assuming that these MPs occur in the same syntactic position, this is also expected. However, it is possible to combine *nog* with a stressed *VISST*, i.e. expressing Verum-focus, cf. (85).

- (85) A: *Jag trodde inte att Peter kommer imorgon.*  
 I believed not that Peter comes tomorrow  
 I didn't believe that Peter will come tomorrow.

- B: *Men Peter kommer nog VISST/\*visst i morgon.*  
 but Peter comes NOG VISST<sub>VF</sub>/*visst* in tomorrow  
 But Peter WILL probably come tomorrow anyway.

As discussed above, the stressed *VISST*, i.e. expressing Verum-focus occurs in a lower position in the clause, as it can be preceded by sentence adverbs, cf. (65) above. Thus, it is not unexpected that it might co-occur with the MP *nog*. The unstressed *visst* might also co-occur with the stressed *VISST*, cf. (86). This is a further argument in favour of the assumption that the unstressed and stressed instances occur in two distinct positions, and the stressed version is not simply a combination of Verum-focus and the unstressed MP *visst*.

- (86) A: *Jag trodde inte att Peter kommer imorgon.*  
 I believed not that Peter comes tomorrow  
 I didn't believe that Peter will come tomorrow.  
 B: *Men Peter kommer visst VISST i morgon.*  
 but Peter comes VISST VISST<sub>VF</sub> in tomorrow  
 But it seems that Peter WILL come tomorrow anyway.

**Sentence initial and middle field MPs** It is also possible to combine sentence initial *nog* with middle field stressed *VISST*, cf. (87). This is preferably done with a questions intonation.

- (87) *Nog har han VISST redan läst tidningen?*  
 NOG has he VISST<sub>VF</sub> already read paper.DEF  
 It can be inferred that he HAN read the paper, can't it?

The fact that a combination of *nog* and *VISST* is possible, as long *nog* occurs in a sentence initial position and *VISST* the medial position, I take as an additional argument in favour for the assumption that this stressed instance of *VISST* is base generated in a lower position in the clause than the unstressed *visst*.

When one of the particles *visst* and *nog* occur in the sentence initial position, they can also co-occur with *väl*. The meaning of such utterances is, as always with sentence initial *nog* or *visst*, dependent on the intonation of the utterance. It can be read as a question, as shown in the translation of (88), or as a statement.



- (88) *Nog/Visst har han väl redan läst tidningen.*  
NOG/VISST has he VÄL already read paper.DEF  
*nog väl* : Surely we can assume that he has read the paper, can't we?  
*visst väl*: Surely it seems that he has read the paper, doesn't it?

The MP *ju* seems to be excluded from these examples, and it might be due to semantic reasons. It seems to be contradictory to mark a proposition as known, i.e. by *ju*, and at the same time questioning it (with a question intonation). Assuring the addressee about the truth of a proposition (in case of declarative intonation) would also be unnecessary if the proposition is already known to speaker and addressee.

Reviewing the co-occurrence and the linearisation of the MPs when they occur in the middle field show that the MPs can co-occur to a certain extent. The fact that a co-occurrence of *nog* and *visst* is impossible indicates that they occur in the same syntactic projection whereas *ju* and *väl*, able to co-occur, occur in two distinct projections located above the projection hosting *nog* and *visst*.

#### 4.3.2. MP in matrix clauses

In the following section I will take a closer look at the occurrence of MPs in matrix clauses. This will allow us to specify the position of the functional projections hosting the MPs, and also offer further support for the syntactic analysis of the MPs *ju* and *väl* as heads and *nog* and *visst* as phrasal elements. Before we turn to the MPs, I will quickly describe the clause structure of matrix clauses in Swedish.

##### The structure of matrix clauses

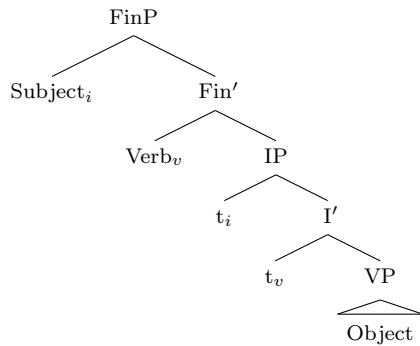
The word order of matrix clauses in Swedish is V2 with two possible positions for the subject (available to both DPs and pronominal subjects). The first option is for the subject to occur in the sentence initial position, i.e. SVO, in which case the finite verb is in second position, followed by sentence adverbs and objects (if present), cf. (89a). The second option is the so called “inverted word order”: a phrasal constituent such as a temporal adverb, or a fronted object occurs in the initial position and is followed by the finite verb, which in

turn is followed by the subject, cf. (89). This was also demonstrated to apply when the MPs *nog* and *visst* occur in the initial position, cf. section 4.1.2.

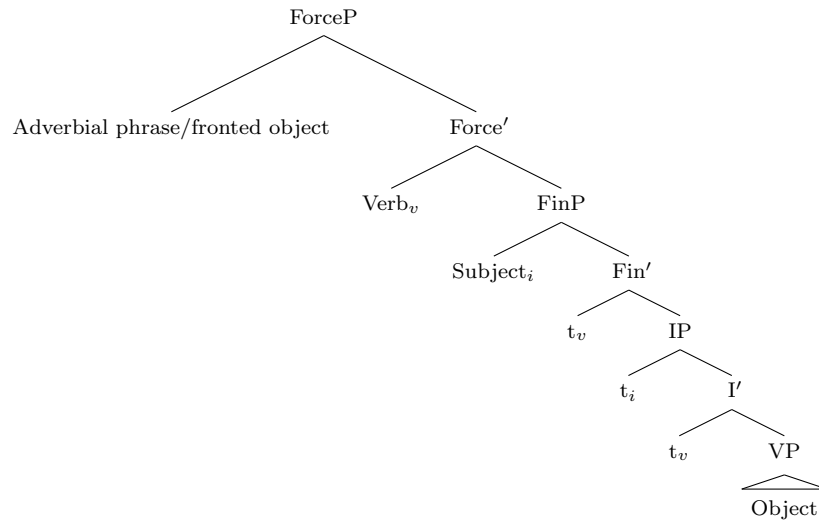
- (89)
- a. *Pojken läste boken igår.*  
boy.DEF read book.DEF yesterday  
The boy read the book yesterday.
  - b. *Igår läste pojken boken.*  
Yesterday read boy.DEF book.DEF  
The boy read the book yesterday.
  - c. *Boken läste pojken igår.*  
book.DEF read boy.DEF yesterday  
The boy read the book yesterday.

Platzack (2001) and Julien (2009) assume that these two types of main clauses have distinct structures. Platzack (2001) assumes that subject initial clauses have a FinP as its highest projection, resulting in the following structure:

- (90) *Subject-initial matrix clause:*



For clauses with the subject in inverted position, and any other phrasal element in the initial position, Platzack (2001, 367) assumes that the highest projection is a Force phrase, cf. (91).

(91) *Inverted matrix clause:*

Julien (2009) proposes that all matrix clauses have ForceP as the highest projection, i.e. in subject initial clauses, the subject is in SpecForceP, and in clauses with inverted order, the subject is in SpecFinP. The details of the position of the verb and subject in the CP-domain will not be discussed any further, but the two possible positions of the subject is of interest for the analysis of the syntactic status of the MPs.

#### (a) Matrix clauses with sentence adverbs

Independently of which structure one uses to account for subject initial clauses, clauses with inverted word order must allow for two distinct positions of the subject below the finite verb, as the subject may occur before, in between or after any sentence adverb, cf. (92).

- (92) *Igår läste <pojken> antagligen <pojken> inte <pojken> boken.*  
 Yesterday read boy.DEF probably boy.DEF not boy.DEF book.DEF  
 The boy probably did not read the book yesterday.

If the subject precedes the sentence adverbs, the subject is assumed to be in SpecFinP and if the subject follows the adverbs, the subject is in SpecIP, cf. Holmberg and Platzack (2005) and Brandtler (2008). Subjects occurring in between two adverbs are assumed to be in SpecIP with one adverb above IP and one above VP.

The flexibility of the adverb with respect to the positions of the subject has been accounted for in different ways. Platzack (2009) argues for an analysis of

adverbs as adjuncts, i.e. the adverb must be able to adjoin to either the VP or the IP, cf. Platzack (2009), Holmberg and Platzack (2005). As adverbs are assumed to be phrasal elements, nothing speaks against an adjunction analysis of adverbs. However, Beijer (2005) argues against an analysis of Swedish adverbs as adjunct and in favour of a syntactic account of adverbs in line with Cinque's (1999) analysis of adverbs as occurring in functional projections in the IP-domain. If one assumes Cinque (1999) hierarchy of functional projections as hosts for adverbs, one needs to assume a possible landing site for a subject DP between each projection. This necessary assumption is one of the main arguments against an analysis of adverbs in functional projections according to Platzack (2009). Furthermore, Platzack (2009) states that the ordering of sentence adverbs is not as fixed as an hierarchical ordering in the sense of Cinque (1999) would predict. The observation that adverbs are somewhat flexible is in line with Frey and Pittner's (1998) claim that the ordering within one class of adverbs, e.g. within the class of sentence adverbs, is governed by semantic preferences for a given order and not by syntax. It must be noted that an analysis of MPs as adjuncts might render the expected linearisation, as it is assumed that speaker attitudes must scope over evidentials. However, an analysis of *ju* and *väl* as adjuncts is problematic based on their syntactic status as heads.

In how far adverbs are adjuncts or are base generated in functional projections will not be discussed any further in this work. However, it must be noted that, independently of how the adverbs are analysed, the DP subject must be able to surface in either SpecFinP or SpecIP.

#### **(b) Matrix clauses with MPs**

I will not address the question of how adverbs enter the clause structure any further, but instead turn to the integration of the MPs in matrix clauses. Above I pointed out that an analysis of MPs as adjuncts is problematic and the problems identified by Coniglio (2011) for German MPs are the same that we face if we analyse Swedish MPs as adjuncts. I argued that it is not possible to analyse the MPs *ju* and *väl* as adjuncts primarily because these MPs show properties of heads but appear in a position in which there is no other head to which they can adjoin.

The MPs *nog* and *visst* show phrasal properties, i.e. occurring in a sentence

initial position as well as in a medial position. Due to their phrasal status they could be analysed as adjuncts. However, such an account would result in two distinct analyses of the MPs. On the one hand the MPs *ju* and *väl* as heads in functional projections and on the other hand *nog* and *visst* as phrasal adjuncts. Analysing the MPs as occurring in functional projections in the IP-domain allows for a unified account of all MPs, with *ju* and *väl* in the heads of two distinct phrases and *nog* and *visst* in the specifier of a lower phrase. It also allows us to distinguish between the MPs and adverbs (independently of how these enter the clause), which will show to be necessary, cf. chapter 5, which would be difficult to account for in an approach where MPs and adverbs are all analysed as adjuncts.

Beijer (2005) proposes that *ju*, *väl* and *nog* occur in a very high position in the IP-domain. However, he analyses these MPs as adverbs and proposes that they all occur in the same functional projection. In the analysis of the Swedish MPs which I propose, I assume that the MPs occur in the highest projections of the IP domain, in line with Beijer (2005), but I assume that the MPs occur in multiple projections in order to account for their co-occurrence and linearisation. Further I assume that the MPs are base generated in these functional projections, as suggested by Grosz (2007) and Coniglio (2011) for German MPs.

The difference between my account of the MPs *ju* and *väl* and Grosz's account of clitic MPs is that he assumes that the clitic MPs are base generated as (deficient) clitic phrases in the specifier of a functional projection. In his account, the movement of the MPs is analysed as an extraction of the head of the clitic phrase which undergoes head-adjunction to the verb, i.e. occurring adjacent to the finite verb. The exact nature of such an extraction and subsequent head adjunction is unclear, and I will argue that the Swedish MPs should be analysed as occurring in the head of the functional projection in which they are base generated, as this can account for the necessity of the MP to adjoin to the finite verb. For the MPs *nog* and *visst* I assume a full phrasal status, as opposed to weak elements as proposed for the German MPs by Grosz (2005), Coniglio (2011) and Cardinaletti (2011).

I propose the following phrasal structure of the MPs: In the left periphery of the IP-domain, the MP *ju* occurs in the head position of the phrase labelled *MP1a*, the MP *väl* in the head position of *MP1b*, the former preceding the

latter. By assuming that these two MPs occur in two distinct positions, we can account for their possibility to co-occur. Assuming that these MPs occur in a head position allows us to account for their position in matrix clauses adjacent to the finite verb. As the finite verb moves to its surface position in the CP-domain (into ForceP or FinP, depending on if one assumes Platzack's 2009 or Julien's 2009 analysis) it moves through the MP-phrases and the MPs can adjoin to the verbal head, i.e. forming a cluster. This assumption about the status of the MPs as heads implies that an inverted subject DP (in SpecFinP) cannot occur between the finite verb and the MPs *ju* and *väl*. Initial observations show that this is in fact the case, demonstrated in (93), in which the subject DP may not precede the MPs *ju* or *väl*. This issue was further tested experimentally, see chapter 5.1.

- (93) *Igår läste ⟨pojken⟩ ju/väl ⟨pojken⟩ boken.*  
 Yesterday read boy.DEF JU/VÄL boy.DEF book.DEF  
 Yesterday, the boy read the book.

It must be noted that when the MPs *ju* and *väl* co-occur, as discussed in 4.3.1, the former MP must precede the latter. If they are clitics and *väl* is base generated in a position below *ju*, it would be expected that *väl* precedes *ju* when they are combined in matrix clauses. One possible solution to this problem is to assume that *ju* and *väl* form a clitic cluster, as assumed by Coniglio (2011) for a combination of the German MPs *ja* and *wohl* when they co-occur, which reflects their ordering in their base positions. The base ordering of *ju* and *väl* is evident in embedded clauses, to which I turn in section 4.3.3. In order to account for their linearisation in matrix clauses, I assume that the MPs form a cluster before moving, and this cluster subsequently adjoins to the verb.

The MPs *nog* and *visst* are both base generated in the specifier position of the phrase labelled *MP2*. Their status as phrases is reflected in their syntactic property of possible movement to a sentence initial position. Further, initial observations show that the MPs *nog* or *visst* may precede or follow a subject DP, i.e. they do not move with the finite verb into its C-position, cf. (94). This observation is also further tested experimentally, see chapter 5.2.

- (94) *Igår läste ⟨pojken⟩ nog/visst ⟨pojken⟩ boken.*  
 Yesterday read boy.DEF NOG/VISST boy.DEF book.DEF  
 Yesterday, the boy read the book.

Note that the difference in position of the DPs with respect to the MPs do not seem to affect the interpretation of the DP, but this will be addressed more closely in chapter 5 in which this is tested experimentally.

The MPs *nog* and *visst* can co-occur with the MPs in the projections *MP1a* and *MP1b*, but as these two MPs cannot co-occur, it is not necessary to assume two distinct projections. In figure 4.1 the positions of the three MP-phrases are displayed.

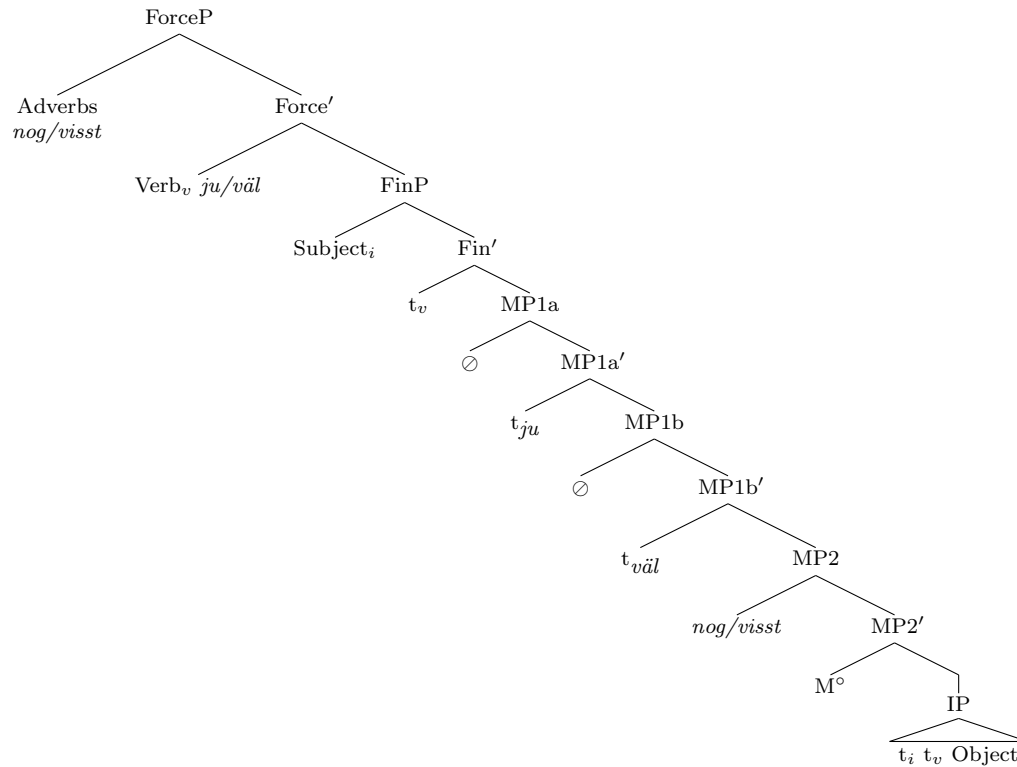


Figure 4.1: *Matrix clause with MP projections*

For reasons of space, the other functional projections hosting sentence adverbs have been left out, but I assume that they occur below MP2, as adverbs necessarily follow any MP.

In the next section I will turn to the occurrence of MPs in embedded clauses. This offers further motivation to the above proposed ordering of the functional projections hosting the MPs, as well as additional arguments for the head-status of the MPs *ju* and *väl*.

### 4.3.3. MPs in subordinate clause

MPs are often regarded to be main clause phenomena. However, they do occur in subordinate clauses as well. According to Coniglio (2011), MPs in German occur in peripheral adverbial clauses, non-restrictive relatives and complement clauses. These are all clause types that are claimed to have an extended left periphery, cf. Haegeman (2006) and thus may host main clause phenomena. I will not go into detail about the syntactic structure of these clauses but it must be noted that the possibility to host main clause phenomena has been



linked to the possibility to also host verb second in Swedish. However, as I will show in this section, MPs also occur in clause types where verb second is not possible. The question concerning the occurrence of MPs in different subordinate clauses will be discussed further in section 4.3.3. In that section I will also return to the semantic properties of the MPs, as it will show that these also influence the possibility to embed MPs in different clause types.

In the previous section, I argued that the MPs are base generated in three distinct functional projections, *MP1a*, *MP1b*, and *MP2*. The linearisation of elements in the middle field of matrix clauses was accounted for by assuming that the MPs *ju* and *väl* occur in head positions of these projections and move with the finite verb into their surface position, whereas the MPs *nog* and *visst* occur in a specifier position and do not move with the finite verb. As a result, the MPs *ju* and *väl* always occur adjacent to the finite verb, whereas the MPs *nog* and *visst* occur in a lower position in the middle field in main clauses. Subordinate clauses, lacking verb movement, can be used to verify the syntactic assumptions about the MPs. If the MPs are syntactic heads, they must, due to the lack of verb movement, occur in their base position following the subject DP in embedded clauses. In this section I will focus on reviewing the position of MPs in subordinate clauses, as this offers further arguments in favour of the syntactic analysis of the MPs presented above.

Holmberg and Platzack (2005) and Platzack (2001, 2009) assume the following structure for a subordinate clause in Swedish: SpecForceP is empty and the complementizer has moved from Fin° to Force° in order to mark embedding. The subject always surfaces in SpecFinP. The finite verb does not move into the CP-domain, but remains in the VP, following any sentence adverbs, cf. figure 4.2 adapted from Platzack (2001, 367) to include the MP projections.

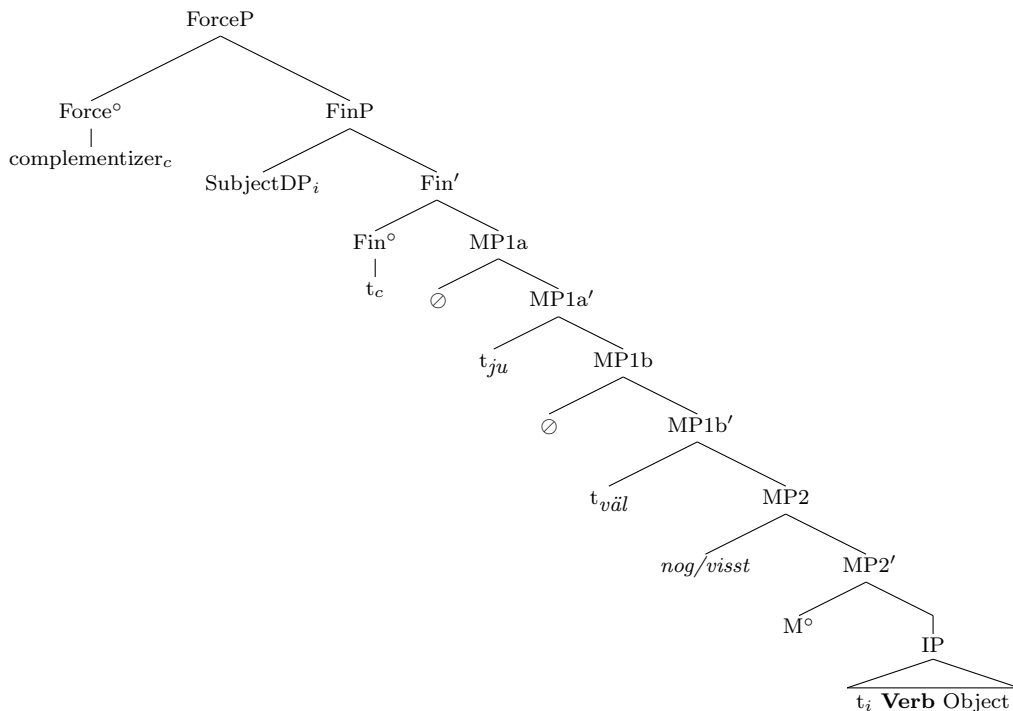


Figure 4.2: Structure of a subordinate clause

The lack of verb movement in the subordinate clauses allows us to test two assumptions about MPs: First, the syntactic status of *ju* and *väl* as syntactic heads and second, the hierarchy of the MP-projections.

Without the verb movement from the VP- to the CP domain, the MPs *ju* and *väl* must occur in their base positions in subordinate clauses. They cannot cliticize onto a finite verb and must thus occur following the subject DP in SpecFinP, but preceding the verb in V°. That this is indeed the case is shown in (95a and b), which is a complement clause of the peripheral type. For convenience, a matrix clause is repeated in (96).

(95) Peter säger... (Peter says...)

- a. *att Johan ju/väl/nog/visst antagligen såg Anna*  
that J.<sub>Subj</sub> JU/VÄL/NOG/VISST probably saw A<sub>Obj</sub>  
*igår.*  
yesterday.  
that John MP probably saw Ann yesterday
- b. \* *att ju/väl/nog/visst antagligen Johan såg Anna*  
that JU/VÄL/NOG/VISST probably J.<sub>Subj</sub> saw A<sub>Obj</sub>  
*igår.*  
yesterday.

- (96) *Igår* *såg*  $\langle ju/väl/nog/visst \rangle$  *Johan*  $\langle *ju/*väl/nog/visst \rangle$   
 yesterday saw JU/VÄL/NOG/VISST J.<sub>Subj</sub> JU/VÄL/NOG/VISST  
*antagligen* *Anna*.  
 probably A<sub>Obj</sub>

As a result of the lack of any movement of the MPs, the base generated hierarchy of the MP-phrases and adverb phrases, i.e. their position in the IP domain, becomes visible. (97a) shows that all the MPs occur to the left of any sentence adverb, i.e. is necessary to assume that they are base generated in a higher position than the sentence adverbs (as postulated by Beijer (2005)). In (97b) the internal hierarchy of the MP-phrases is visible. The MPs *ju* and *väl* must precede *nog* and *visst*, i.e. *ju* and *väl* must indeed be base generated in projections above *nog* and *visst*.

- (97) Peter säger... (Peter says...)
- a. *att Johan*  $\langle ju/väl/nog/visst \rangle$  *antagligen*  
 that J.<sub>Subj</sub> JU/VÄL/NOG/VISST probably  
 $\langle *ju/*väl/*nog/*visst \rangle$  *såg Anna igår*.  
 JU/VÄL/NOG/VISST saw A<sub>Obj</sub> yesterday.  
 that John MP probably saw Ann yesterday
- b. *att Johan*  $\langle *nog/*visst \rangle$   $\langle ju/väl/\rangle$   $\langle nog/visst \rangle$  *antagligen*  
 that J.<sub>Subj</sub> NOG/VISST JU/VÄL NOG/VISST probably  
*såg Anna igår*.  
 saw A<sub>Obj</sub> yesterday.  
 that John MP probably saw Ann yesterday

The data from subordinate clauses show that the assumptions made in the previous section about the syntactic status of the MPs *ju* and *väl* as well as about the hierarchy of all the MPs can be maintained. The claim made about MPs in subordinate clauses in this section, i.e. in complement clauses under verbs of saying, also hold in other types of subordinate clauses. This will be demonstrated in the next section.

### In different types of complement clauses

In the discussion of MPs in complement clauses, I will use a classification of predicates that can embed complement clauses presented by Hooper and Thompson (1973). They propose five types of such predicates. These are: verbs of saying (labelled class A), weakly assertive verbs, such as *think*, *suppose*

and *seem* (labelled class B), non-assertive and non-presupposing verbs, e.g. *likely*, *possible* (class C), factive verbs, e.g. *regret* (class D), and semi-factive verbs, e.g. *realize*, *know* (class E).

Complement clauses embedded under verbs of saying and semi-factive verbs, *say*, *believe*, *know* are claimed to host root phenomena whereas complement clauses of factives and non-assertive verbs, *regret*, *doubt*, *deny* cannot host root phenomena. This implies that only the former types of predicated may embed MPs as well, and they should be banned for the latter types.

In (98) I present my judgements of embedding of MPs under the different types of matrix verbs. It shows that even the complement clause types that cannot embed V2, i.e. class C, may embed some MPs.

(98) a. Class A

*Johan sa att Peter ju/väl/nog/visst redan har gett*  
 John said that Peter JU/VÄL/NOG/VISST already has given  
*Maria boken.*  
 Mary book.DEF  
 John said that Peter ⟨as you know/ probably/ I assume/ it  
 seems⟩ had already given the book to Mary.

b. Class B

*Johan gissade att Peter \*ju/väl/nog/\*visst redan har*  
 John guesses that Peter JU/VÄL/NOG/VISST already has  
*gett Maria boken.*  
 given Mary book.DEF  
 John guessed Peter ⟨as you know/ probably/ I assume/ it seems⟩  
 had already given the book to Mary.

c. Class C

*Johan betvivlar att Peter \*ju/\*väl/nog/visst redan har*  
 John doubt that Peter JU/VÄL/NOG/VISST already has  
*gett Maria boken.*  
 given Mary book.DEF  
 John doubts that Peter ⟨# as you know/ # probably/ I assume/  
 it seems⟩ had already given the book to Mary.

## d. Class D

*Johan ångrade att Peter \*ju/\*väl/\*nog/\*visst redan har*  
 John regretted that Peter JU/VÄL/NOG/VISST already has  
*gett Maria boken.*

given Mary book.DEF

John regretted that Peter ⟨# as you know/ # probably/ # I assume/ # it seems⟩ had already given the book to Mary.

## e. Class E

*Johan vet att Peter ju/\*väl/\*nog/\*visst redan har*  
 John knows that Peter JU/VÄL/NOG/VISST already has  
*gett Maria boken.*

given Mary book.DEF

John knows that Peter ⟨as you know/ # probably/ # I assume/ # it seems⟩ had already given the book to Mary.

There seems to be a difference between the two types of MPs, i.e. *ju* and *väl* contra *nog* and *visst*, as the latter type can be embedded under class C type of verbs, cf. (98c). This difference is also observed by Andersson (1975) with respect to *ju* and *väl* and *nog*. He states that the former MPs seem to be more restricted than *nog*, with respect to their distribution in embedded complement clauses.

However, one important side note must be made at this point. MPs and V2 are both claimed to be root phenomena, but they do differ with respect to their distribution in these embedded complement clauses. Compare the examples above embedding MPs, with the examples below of embedded V2.

## (99) a. Class A

*Johan sa att Peter ⟨har⟩ redan ⟨har⟩ gett Maria*  
 John said that Peter has already has given Mary  
*boken.*

book.DEF

John said that Peter has already given the book to Mary.

## b. Class B

*Johan gissade att Peter ⟨har⟩ redan ⟨har⟩ gett Maria*  
 John guesses that Peter has already has given Mary  
*boken.*

book.DEF

John guessed Peter has already given the book to Mary.

c. Class C

*Johan betvivlar att Peter ⟨\*har⟩ redan ⟨har⟩ gett Maria*  
 John doubt that Peter has already has given Mary  
*boken.*

book.DEF

John doubts that Peter has already given the book to Mary.

d. Class D

*Johan ångrade att Peter ⟨\*har⟩ redan ⟨har⟩ redan gett*  
 John regretted that Peter has already has given Mary  
*Maria boken.*

book.DEF

John regretted that Peter has already given the book to Mary.

e. Class E

*Johan vet att Peter ⟨har⟩ redan ⟨har⟩ gett Maria*  
 John knows that Peter has already has given Mary  
*boken.*

book.DEF

John knows that Peter has already given the book to Mary.

This comparison shows that, even though some predicates may embed V2 subordinate clauses<sup>3</sup>, MPs are not restricted to these clauses, but also occur in embedded clauses with verb-base word order under other types of predicates, i.e. type C is possible for the MP *nog* and *visst*.

Further, the restrictions determining in which clauses which MP can occur cannot only be syntactic. The MP *visst* can be embedded under class A, but not B, even though main clause phenomena are possible under class B as shown by the occurrence of the other MPs (and by V2). This restriction of *visst* might be due to semantic differences between the MPs. *Nog* is possible in this case, and as it expresses that the proposition is an inference based on background knowledge of the speaker, it is also compatible with a verb such as *guess*, expressing that the embedded clause is a result of an internal process of thinking. *Visst*, expressing that the statement is an inference based on perceived indirect evidence, is not licit in such a context. Further, *ju* is

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<sup>3</sup>Djäv et al. et al. 2016 have shown that the preferred word order of embedded clauses under all types of complement clause embedding predicates is sentence adverb preceding the finite verb and not the finite verb preceding the sentence adverb, i.e. not main clause word order.

not felicitous as it marks known information, i.e. which is not the case when the statement is a guess, i.e. as expressed by the matrix verb *guess*.

Only the MP *ju* is felicitous under the verbs discussed for class D and E predicates in example (98). Only the meaning of *ju* seems to be compatible with the meaning of the verb *know* and *regret*, i.e. with predicates presupposing the truth of the proposition of the embedded clause. The meanings of the other MPs, all expressing that the speaker is not certain about the truth of *p*, are incompatible with the meaning of these predicates.

These observations show that the syntactic structure of the sentence determines if a MP can be embedded, but the meaning of the MP must also be compatible with the meaning of the matrix predicate.

### Causal clauses

MPs in German may occur in peripheral adverbial clauses, cf. Thurmair (1989) and Coniglio (2011). The Swedish MPs also occur in these types of adverbial clauses. Below I will focus one type of these clauses, in which also the semantic components of the MPs are of relevance: causal clauses.

The MPs *ju*, *nog* and *visst* are possible in most causal clauses, but the MP *väl* is not licit. This, I assume, is because the embedded clause can express already known information by *ju*, or that the proposition is inference based on the different types of evidence marked by *nog* and *visst*. It must also be noted that the MPs in example (100) are related to the matrix subject of the clause, i.e. Lisa is the one making the inference expressed in the embedded clause, and by *ju* the proposition must be known to the matrix subject, as well as to the actual speaker and addressee. However, the weak commitment of the speaker expressed by *väl* is not possible. This might be due to the presuppositional status of the propositions of these embedded clause, which is not compatible with a weak commitment of the matrix subject, nor the actual speaker, see discussion in the previous section on the importance of semantic compatibility of the clause and the MP.

- (100) a. *Lisa är sur på Peter eftersom han ju/\*väl/nog/visst inte kommer imorgon.*  
 L. is sour on P. because he JU/VÄL/NOG/VISST not  
 comes tomorrow  
 Lisa is mad at Peter because he will not come tomorrow.

- b. *Lisa är sur på Peter eftersom han kommer*  
L. is sour on P. because he comes  
*ju/\*väl/nog/visst inte imorgon.*  
JU/VÄL/NOG/VISST not tomorrow  
Lisa is mad at Peter because he will not come tomorrow.

A side note: These adverbial clauses also embed V2 clauses. In these clauses, the MP occurs in the same position as in matrix clauses, i.e. following the finite verb in second position, as demonstrated in (100b).

However, the more interesting observation for the data in (100) is that we can make the same observation as in the previous section, i.e. that even though the syntactic conditions are given for MPs to occur in subordinate clauses, it seems that it is also necessary to pay attention to the semantics of the MPs and the predicates of the embedding clauses in order to account for restrictions of MP occurrences.

### Relative clauses

Relative clauses are one clause type which never embed V2 in Swedish, but nevertheless MPs can occur here, cf. (Andersson, 1975). The embedding of MPs in relative clauses patterns with Coniglio's 2011 description for occurrences of German MPs. Example (101) shows that the MPs can occur in non-restricted relative clauses in Swedish. As there is no verb movement in relative clauses, the MP must occur in its base position following the subject DP, cf. (101).

- (101) a. *Loppet, som ⟨\*ju/\*väl/\*nog/\*visst⟩ Peter*  
raceDEF rel JU/VÄL/NOG/VISST P.  
*⟨ju/väl/nog/visst⟩ springer är 10 km långt.*  
JU/VÄL/NOG/VISST runs is 10 km long.  
The race, which ⟨as you know/ probably/ I assume/ it seems⟩  
Peter will run, is 10km.

Restrictive relative clauses relating to a definite NP cannot host main clause phenomena, i.e. do not allow for MPs, cf. (102).

- (102) *Loppet som Peter ⟨\*ju/\*väl/\*nog/\*visst⟩ springer, är 10 km*  
raceDEF REL Peter JU/VÄL/NOG/VISST probably runs is 10  
*långt. Det som Johan springer är 5 km.*  
km long. That REL John runs is 5 km



The race that, ⟨# as you know/ # probably/ # I assume/ # it seems⟩  
Peter will run, is 10km. The one John runs is 5 km.

Restrictive relative clauses relating to an indefinite DP may also host MPs, cf (103). Note that *visst* is ruled out, probably because of semantic incompatibility of marking *p* as an inference based on perceived indirect evidence and the meaning of the matrix verb *see*.

- (103) a. *Jag såg en klänning, som jag ju/väl/nog/# visst under*  
I saw a dress REL I JU/VÄL/NOG/VISST under  
*inga omständigheter skulle ta på mig.*  
no circumstances should take on me  
I saw a dress which I ⟨as you know/ probably/ I assume/ # it seems⟩ would not wear under any circumstances.

The data from relative clauses show that MPs occur in embedded clauses which cannot embed V2, i.e. there is no direct relation between the possibility to embed V2 and MPs, as the data with complement clauses might suggest.

This indicates that it might be necessary to distinguish between weak and strong root phenomena, and between three types of embedded clauses, central (not hosting MPs), peripheral (hosting MPs but not V2) and a third type that can embed V2. Such a proposal is presented in Freywald (2016) and Freitag and Scherf (2016), but will not be discussed any further here.

## 4.4. Intermediate summary

The first sections of this chapter were dedicated to a discussion of how the Swedish MPs behave with respect to phonological and syntactic properties often used to argue in favour of a peculiar syntactic status of MPs in German. I showed that the Swedish MPs pattern with the German MPs only to a certain extent. The properties show that it is necessary to assume that there are two distinct types of MPs in Swedish, which differ both with respect to their phonological and syntactic properties. The two types are reflected in their respective syntactic statuses: The MPs *ju* and *väl* are analysed as syntactic heads, and *nog* and *visst* as phrases. These statuses are supported by their syntactic properties, most prominently by their possible positions in the clause. The main argument in favour of this analysis comes from evaluating

the position of MPs and the finite verb in matrix compared to subordinate clauses. It shows that the position of the MPs *ju* and *väl* is dependent on verb movement, whereas the positions of *nog* and *visst* are unaffected by this. Further, the possibility for *nog* and *visst* to occur in a sentence initial position strengthens the assumption that they are phrasal elements, whereas the MPs *ju* and *väl*, banned for this position, cannot be phrasal.

The linearisation and co-occurrence of MPs in matrix and subordinate clauses show that MPs must be base generated in three distinct projections in the highest positions in the IP domain. I argued that the MP *ju* occurs in the highest of these projections, followed by the projection hosting *väl* and by one projection hosting either *nog* or *visst*. At this point it must be noted that there might be semantic reasons for the linearisation of the MPs, e.g. that *ju* and *väl* must scope over *nog* and *visst*. However, such an approach will not be discussed any further in this work, but will be left for future research. It is necessary to also note that a purely semantic analysis of the linearisation of the MPs cannot account for the differences observed in linearisation of the MPs *ju* and *väl* with respect to DP subjects in matrix and embedded clauses, i.e. in matrix clauses these MPs necessarily precede the DPs, whereas they must follow a DP in embedded clauses. This difference is related to verb movement and its effect on the position of *ju* and *väl* can only be accounted for by a syntactic analysis of these MPs as heads.

In section 4.3.3 I reviewed the occurrence of MPs in different types of subordinate clauses. I have shown that MPs occur in, but are not restricted to, subordinate clauses that may also host embedded V2, and also occur in embedded clauses without V2, such as non-restricted relative clauses. Further, I argued that in order to account for the occurrence of MPs in embedded clauses, one should not only take the syntactic status of the clause into consideration, i.e. whether an extended left periphery is present or not, but also needs to pay attention to the semantic properties of the MPs and of the embedding predicate. In the following section I will return to MPs in matrix clauses and present some implications of the syntactic status of the MPs regarding the linearisation of the middle field. These data will be tested in six experiments presented in the chapter 5.

## 4.5. Predictions from the theory

### 4.5.1. MPs in relation to DP subjects in the middle field

If the syntactic analysis of the Swedish MPs proposed in section 4.2 and 4.3 is correct, i.e. that the MPs *ju* and *väl* are syntactic heads that occur as clitics on the verb, whereas the MPs *nog* and *visst* are phrases, this should not only be visible in differences in the linearisation of MPs and verbs in the middle field of matrix clauses and subordinate clauses. In matrix clauses there should also be a difference in the position of MPs and subject DPs and pronouns in the middle field. The different positions of MPs in relation to DP subjects in the middle field were briefly demonstrated in examples (93) and (94) above, repeated below as (104) and (105) for convenience.

- (104) a. *Igår läste ⟨\*pojken⟩ ju/väl ⟨pojken⟩ boken.*  
 Yesterday read boy.DEF JU/VÄL boy.DEF book.DEF  
 Yesterday, the boy read the book.

- (105) a. *Igår läste ⟨pojken⟩ nog/visst ⟨pojken⟩ boken.*  
 Yesterday read boy.DEF NOG/VISST boy.DEF book.DEF  
 Yesterday, the boy read the book.

I accounted for the position of the MPs *ju* and *väl* with the argument that they cliticise onto the finite verb and thus no other element can intervene between the finite verb and the MPs. The MPs *nog* and *visst*, being phrasal elements, do not necessarily occur adjacent to the verb, but other phrasal elements such as DPs may intervene between the finite verb and these MPs. This is the first prediction to be tested empirically in the next chapter, see experiments presented in chapter 5.1 and 5.2.

Further, the MPs *nog* and *visst* share the property of being able to be preceded or followed by DP subjects in the middle field with sentence adverbs, cf. (106) for an example with sentence adverbs.

- (106) *Denna terminen **har** ⟨studenterna⟩ förhoppningsvis ⟨studenterna⟩*  
 this term have students.DEF hopefully students.DEF  
***klarat** sina tentor.*  
 passed their exams.  
 Hopefully, the students passed their exams this term.

However, I argued that the MPs are to be distinguished from sentence adverbs as the MPs occur in a position higher up in the middle field. This general difference will be tested, as will an additional question: It is frequently claimed that there is a correlation between the information structure of the sentence and the position of the constituents in the middle field. For German it has been claimed that sentence adverbials (e.g. Frey and Pittner (1999)) and MPs (cf. Thurmair (1989) and Hentschel (1986)) mark the border between topical and non-topical or given and new information in the sentence. Similar claims have been made for Swedish sentence adverbs, cf. Svenonius (2001): a given (topical) subject precedes the adverb but a focused (non-topical) one follows the adverb. Holmberg (1993) also links the two possible positions of the subject to information structure. The position to the right of the adverb is reserved for subjects in focus whereas non-focused subject must move to the left of the adverb. Platzack (2001) however, claims that there is no relation between the information structural status of the DP and its position with respect to sentence adverbs. If a relation is present for the adverbs or the MPs will be tested empirically in three experiments. In 5.2, I will test the if the information structural categories of *given* and *new* have an effect on the position of the DPs with respect to MPs as well as sentence adverbs. However, if the sentence adverbs do mark an information structural border, and if my assumption that the MPs *nog* and *visst* occur in a higher position than the sentence adverbs is correct, it is expected that the MPs do not mark the same border as the sentence adverbs, if any at all. In the experiments 5.4 and 5.5 the effect of information structure will be tested using a more fine-grained distinction of categories.

#### 4.5.2. MPs in relation to pronouns in the middle field

The subject of a clause may also be expressed by a pronoun, occurring in the middle field. The position of the pronoun with respect to the sentence adverb is flexible, but claimed to correlate with stress. An unstressed pronoun must precede the sentence adverb, and a stressed pronoun must follow it, cf. (107)<sup>4</sup>. This is usually taken as an argument that information structure affects the position of elements in the middle field with respect to sentence adverbs, as

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<sup>4</sup>Stressed is marked by capital letters.

stress is analysed as a reflection of newness or focus.

- (107) *Denna terminen **har**  $\langle dom/*DOM \rangle$  förhoppningsvis  $\langle *dom/DOM \rangle$*   
 this term have they hopefully they  
***klarat** sina tentor.*  
 passed their exams.  
 Hopefully, they passed their exams this term.

Turning to the MPs, a slightly different pattern emerges. A stressed pronoun must follow the MPs and an unstressed pronoun may precede the MPs. However, an unstressed pronoun may also follow the MPs, i.e. this is an indication that if information structure effects the position of the pronouns with respect to adverbs, as assumed in the previous example, it does not seem to have the same effect with MPs, cf. (108).

- (108) *Denna terminen **har**  $\langle dom/*DOM \rangle$  ju/väl/nog/visst*  
 this term have they JU/VÄL/NOG/VISST  
 *$\langle dom/DOM \rangle$  **klarat** sina tentor.*  
 they passed their exams.  
 They passed their exams this term.

The fact that an unstressed pronoun can precede the MPs *nog* and *visst* is not unexpected, as this is also possible for DPs. However, it is more puzzling with the MPs *ju* and *väl* if they are clitics on the finite verb. In order to account for the occurrence of an unstressed pronoun before these MPs, given the syntactic analysis as heads, one must assume that the pronouns also are clitics. For similar cases in German, Grosz (2007) argues that unstressed mono-syllabic pronouns are to be analysed as clitics when they precede the clitic MP *dn*. However, this classification of pronouns as clitics is usually not done in the literature on Swedish, cf. Platzack (2009), but only strong and weak pronouns are distinguished. They do not differ in their lexical form but only with respect to their phonological properties, as strong pronouns are stressed, and weak unstressed.

It may be possible to argue that unstressed mono-syllabic pronouns are clitics, but is it also possible for unstressed bi-syllabic pronouns? Examining the position of bi-syllabic pronouns with respect to MPs might thus give insight to this question of the status of the pronouns, and additionally it also gives more insight into the syntactic status of MPs. As all subject pronouns

are mono-syllabi in Swedish, I will test this interaction between pronouns and MPs with object pronouns.

There are mono- as well as bisyllabic object pronouns that can be stressed or unstressed. An unstressed object pronouns may undergo *Object Shift*<sup>5</sup>, and as a result occur in the middle field, cf. (109a) with an unshifted, stressed pronoun, and (109b) with a shifted, unstressed object pronoun. The shift is visible with respect to the adverb *kanske* (=maybe). It is usually argued that the stress of the pronoun is the only property of the pronoun that is relevant for its ability to undergo object shift and that the length of the pronoun is of no relevance for object shift, i.e. unstressed mono- as well as bisyllabic pronouns shift.

- (109) a. *Han gav*  $\langle *HENNE/*OSS \rangle$  *kanske*  $\langle HENNE/OSS \rangle$   
He gave her/us perhaps her/us  
*boken.*  
book.DEF
- b. *Han gav*  $\langle henne/oss \rangle$  *kanske*  $\langle henne/oss \rangle$  *boken.*  
He gave her/us perhaps her/us book.DEF  
Perhaps he gave her/us the book.

Using object pronouns that may undergo object shift, a fine-grained pattern of linearisation of MPs and pronouns in the middle field emerges when the relation between MPs and object pronouns is inspected in detail. In Scherf (2017) I claimed that unstressed object pronouns, mono- and bisyllabic, may precede *nog* and *visst* but ordering is not necessary (at least not for bisyllabic pronouns), cf. (110b).

- (110) a. *Han gav*  $\langle *HENNE/*OSS \rangle$  *nog/visst*  $\langle HENNE/OSS \rangle$   
He gave Pron.OBJ NOG/VISST Pron.OBJ book.DEF  
*boken.*
- He gave her/us the book, I assume/it seems.
- b. *Han gav*  $\langle henne/oss \rangle$  *nog/visst*  $\langle henne/?oss \rangle$  *boken.*  
He gave Pron.OBJ NOG/VISST Pron.OBJ book.DEF

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<sup>5</sup>This phenomenon is discussed at length in chapter 6. It refers to a movement of an object pronoun from the VP domain into the IP domain under certain conditions in matrix clauses.

With *ju* and *väl*, not only stress but also the length of the pronoun seems to be relevant for their position (as possibly only mono-syllabic pronouns can be claimed to be clitic). Mono-syllabic unstressed object pronouns may precede the MPs, whereas this is dis-preferred for bisyllabic unstressed object pronouns, cf. (111b).

- (111) a. *Han gav* ⟨\**HENNE*/\**OSS*⟩ *ju/väl* ⟨*HENNE*/*OSS*⟩  
 He gave Pron.OBJ JU/VÄL Pron.OBJ  
*boken.*  
 book.DEF  
 He gave her/us the book, as we know./didn't he?
- b. *Han gav* ⟨?*henne*/*oss*⟩ *ju/väl* ⟨*henne*/*oss*⟩ *boken.*  
 He gave Pron.OBJ JU/VÄL Pron.OBJ book.DEF

The judgements presented in these examples are very subtle and call for a quantitative study, which will be presented in the next chapter. The results will give insight into the syntactic status of the MPs, as well as to that of the pronouns. The expectations are that only mono-syllabic pronouns, possibly also clitic elements, should be able to precede the MPs *ju* and *väl*. Further, if mono-syllabic pronouns are clitics, it is expected that they must precede the phrasal MPs *nog* and *visst*. Bi-syllabic pronouns, possibly more difficult to ascribe a clitic status to (because of their phonological structure), should not be able to precede the MPs *ju* and *väl*, but must follow these. Their position with respect to *nog* and *visst* might be more flexible.

To summarize this section, if my syntactic proposals for the MPs are correct, this will be visible in the linearisation of MPs, DPs and pronouns in the middle field as sketched out above. If the MPs *ju* and *väl* are clitics, they should only be able to be preceded by unstressed, mono-syllabic subject pronouns in the middle field. Bisyllabic, unstressed object pronouns as well as all stressed pronouns follow these MPs. Subject DPs must also follow these MPs. The phrasal MPs *nog* and *visst* may be preceded by clitic and both mono- and bisyllabic unstressed pronouns as well as by full DPs, but not by stressed pronouns. Further, a comparison to sentence adverbs will be made in each experiments, and if there are any differences between MPs and sentence adverbs, this will be reflected in the results and offer further support for my claim that MPs are not sentence adverbs.





## 5. Experiments

In this chapter I will present six experiments that empirically examine the position of the MPs *ju*, *väl*, *nog* and *visst* and sentence adverbs within the middle field of matrix clauses. The motivation therefore is twofold. First, I wish to empirically validate the syntactic analysis of the MPs presented in the previous chapter by testing predictions of the analysis. The focus will be on the linearisation of MPs, DP subjects and object pronouns in the middle field of matrix clauses. Second, in these experiments I hope to find further support for the assumption that MPs are not sentence adverbs. I argued that one of the differences between sentence adverbs and MPs is the position in which they surface in the middle field with respect to other elements. The question whether the MPs occur in the same position as adverbs in the middle field will be tested in relation to the position of full subject DPs in four experiments and in relation to object pronouns that have undergone object shift in two experiments.

The overall results of these experiments will be compared to the syntactic analysis of the MPs presented in the previous chapter and the proposal that the MPs *ju* and *väl* are clitic particles will be supported. The results will also show that the phrasal MPs *nog* and *visst* occur in a different position compared to sentence adverbs.

Further, the experiments also offer insight into the positioning of object pronouns in matrix clauses and the features that influence their ability to undergo object shift, as well as which information structural properties that have an effect on the position of subject DPs in the middle field.

## 5.1. Experiment 1: *ju*, *väl* and subject DPs

In this experiment, the position of the MPs *ju* and *väl* and sentence adverbs in relation to full subject DPs with different information structural status (given and new) in the middle field is tested.

The experiment tests whether it is possible to maintain the assumption by Svenonius (2001) and Holmberg (1993) that the position of the DP subject in the middle field is dependent on its information status<sup>1</sup>. The claim is that given/unfocused DPs precede sentence adverbs whereas new/focused DPs follow sentence adverbs in the middle field. In this experiment given/new (i.e. information focus) will be tested. Identification focus will be tested in experiment 5.4. Further this experiment tests whether this also holds for the MPs, i.e. if a given or new DP subject can precede or follow the MPs.

### *Hypothesis:*

The MPs *ju* and *väl* are not sentence adverbs but clitics that occur in a position higher in the clause than the sentence adverbs. The MPs do not mark the border between given and new information.

### *Additional hypothesis:*

Sentence adverbs mark the border of given and new information in the clause.

The expected result is that the sentence adverbs mark the border between given and new information, i.e. given DP subjects will precede the sentence adverbs, and new DPs follow these. If the MPs are clitics on the finite verbs, it is expected that the MPs precede all DP subjects, independent of their information structural status. If the MPs are not clitic elements, DP subjects could occur both following and preceding the MPs.

### 5.1.1. Method

**Participants** The participants are 44 native speakers of Swedish (from different regions) between the age of 20 and 55. They all participated voluntarily and without payment.

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<sup>1</sup>In Svenonius' analysis being non-topical is the same as being focused and in Holmberg's analysis it is claimed that the position following the adverb is one where focal accent is possible.

**Materials and design** The material consisted of 24 experimental items and the design of the experiment was two factorial with the two factors: INFORMATION STRUCTURE (GIVEN or NEW subject DP) and ADVERB/MP in a Latin square design. The factor INFORMATION STRUCTURE was introduced by the context setting clause. In the context GIVEN, the DP subject of the target clause was mentioned in the context clause. In the context NEW, the DP subject was not mentioned in the context clause, cf. (112). The dependent variable WORD ORDER (Adverb/MP >DP or DP>Adverb/MP) was tested for in the target sentences, which contained either a sentence adverb or a MP.

The structure of the target was: a clause initial temporal or locative adverbial (adverb or prepositional phrase), an intransitive verb in present tense, a DP subject, a MP or adverb, a clause final adverbial (adverb or PP), cf. example (113). The DP subjects were equally balanced for number (singular and plural definite nouns). There were two versions of each item, one version with a MP (*ju* or *väl*, equally distributed) and one with a sentence adverb. Each sentence adverb occurred in only one item, i.e. 24 sentence adverbs were used. The material was distributed onto 4 lists, each of which contained only one condition of each item. On each list there were 30 fillers, of which 24 were items of experiment 5, presented in section 5.7, and 6 control items to test attention throughout the experiment, cf. appendix A.1 for the full set of material.

(112) **Context: Factor:** INFORMATION STRUCTURE

- a. **Given** *Björnen i djurparken är inte vaken hela året runt.*  
 bear.DEF in zoo.DEF is not awake whole year around  
 The bear in the zoo is not awake the whole year around.
- b. **New** *Så här års är det lugnt i djurparken.*  
 so here year.POSS is it calm in zoo.DEF  
 It is quite peaceful at the zoo this time of the year.

(113) **Targets**

a. **Adverb**

ADV>DP *På vintern sover förstås björnen i sitt ide.*  
 on winter.DEF sleep of course bear.DEF in its den  
 PP V ADV DP PP

DP>ADV *På vintern sover björnen förstås i sitt ide.*  
 on winter.DEF sleep bear.DEF of course in its den  
 PP V DP ADV PP

In the winter, the bear of course sleeps in its den.

b. **MP**

MP>DP *På vintern sover ju björnen i sitt ide.*  
 on winter.DEF sleep MP bear.DEF in its den  
 PP V MP DP PP

DP>MP *På vintern sover björnen ju i sitt ide.*  
 on winter.DEF sleep bear.DEF MP in its den  
 PP V DP MP PP

In the winter, the bear sleeps in its den, as you know.

**Procedure** The method of the experiment is a forced choice test. The experiment was conducted with a web-based questionnaire with a total of 60 items (6 practice items, 24 items, 30 fillers). Each item was presented separately, preceded by one of the two possible context clauses, as presented in (112). The two possible target sentences, i.e. either with an MP or a sentence adverb with different word orders, were presented underneath the context sentence and beneath each other. The order of the two choices was randomized. The participants were asked to choose the most naturally sounding alternative in the context.

**Predictions** Following the hypothesis that the information structural status of the subject affects its position with respect to sentence adverbs, it is expected that given DP subjects precede sentence adverbs and new DP subjects follow these. In the example above, the preferred choice in the context triggering a *given* interpretation of the DP subject, cf. (112a), is expected to be DP>ADV. The preferred choice in the context triggering a *new* interpretation of the subject DP, cf. (112b), is expected to be ADV>DP. Such an outcome would support the hypothesis that sentence adverbs mark the border of given and new information.

Given the hypothesis that the MPs *ju* and *väl* are clitics on the finite verb and must occur adjacent to it, it is expected that no DP subject may precede the MPs, i.e. no matter which status of the DP is set by the context sentence, i.e. the preferred choice of word order is expected to be MP> DP. Such results

would indeed show that the MPs occur in a position higher up in the clause than DP subjects and sentence adverbs, adjacent to the finite verb in  $C^\circ$ . This outcome would not only speak in favour of an analysis of the MPs as distinct from the sentence adverbs but would also allow us to maintain the analysis of the MPs as clitics, as presented in chapter 4.

### 5.1.2. Results

The mean proportions of choice of the order subject-DP > Adverb/MP are given in table 5.1<sup>2</sup>, and presented graphically in figure 5.1.2.

Condition	mean	sd	datapoints
Adv Given	0.597	0.492	248
Adv New	0.524	0.500	248
MP Given	0.075	0.263	255
MP New	0.083	0.277	264

Table 5.1: Mean proportions of subject DPs > sentence adverbs or the MPs *ju/väl*

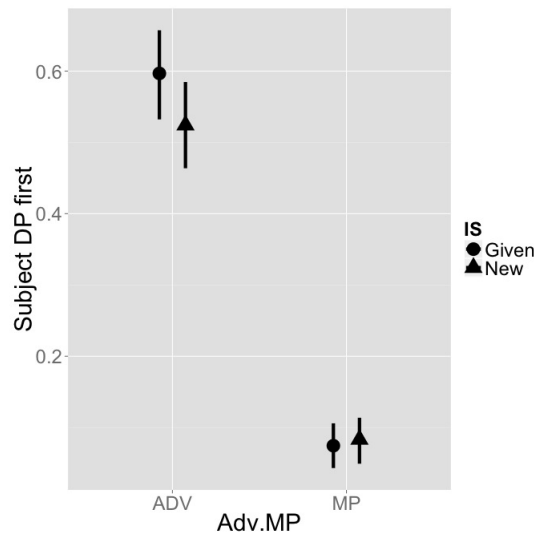


Figure 5.1: Results: Mean Proportions and confidence intervals (95%) of subject DPs > sentence adverbs or the MPs *ju/väl*.

The analysis was conducted using a general linear mixed-effects model with a binominal logit function and testing models for best fit (measuring model

<sup>2</sup>Due to technical problems, some data points were deleted.

adequacy with AIC). The best model included the fixed effects of ADVERB/MP and INFORMATION STRUCTURE and their interaction. The random effects were random intercepts and random slopes for ADVERB/MP for ITEM as well as PARTICIPANT, as well as a correlation of intercept and slope. The best model is shown in (114) and the model parameters are given in table 5.2.

$$(114) \quad \mathbf{Answer} \sim \text{Adv.MP} * \text{IS} + (1 + \text{Adv.MP} | \text{Participant}) + (1 + \text{Adv.MP} | \text{Item})$$

	Estimate	Std. Error	z-value	p-value
(Intercept)	-1.593	0.268	-5.935	< 0.001
Adv.MP	1.870	0.249	7.496	< 0.001
IS	0.037	0.10937	0.339	0.734
Adv.MP*IS	0.193	0.109	1.761	0.078

Table 5.2: Model parameters for experiment 1

	(Intr)	Adv.MP	IS
Adv.MP	-0.703		
IS	0.114	-0.113	
Adv.MP*IS	-0.106	0.120	-0.537

Table 5.3: Correlation of fixed effects for experiment 1

The statistic analysis revealed a main effect of ADV/MP, no main effect of INFORMATION STRUCTURE, and a marginal interaction between the two factors, cf. table 5.2. The interaction was resolved by the factor ADVERB/MP. For the ADVERB subset, INFORMATION STRUCTURE had a significant effect (estimate= 0.226, se= 0.105, z= 2.162, p=< 0.05 ). With MPs this effect is not present (estimate= -0.1441, se=0.1903, z=-0.757 p= > 0.1. Post-hoc analyses of the type of MP revealed that nouns are more likely to precede the MP *ju* then *väl*, but this difference is not significant (estimate= 0.047, sd=0.245, z= 0.194,  $p > 0.05$ ).

### 5.1.3. Discussion of the results

There are two noteworthy results of this experiment. First, the DP subjects frequently precede the sentence adverbs; in more than 50 % of the cases; but

they rarely precede the MPs; less than 8%. Hence, it is possible to maintain the hypothesis that the MPs occupy a different, higher, position in the clause than sentence adverbs do.

The second result is that the information structural status of the DPs subject, GIVEN or NEW, did not affect their distribution in the clause as strongly as expected. Although the information structural status of the subject DPs is statistically significant, and the pattern is such as proposed by Svenonius (2001), the contrast is not as sharp as expected. Both given and new DP subjects precede or follow the sentence adverbs, but for new DPs the distribution was close to random. Thus the effect of the information structure must be investigated further, and will be in the experiments presented in section 5.4 and 5.5.

## 5.2. Experiment 2: *nog*/*visst* and subject DPs

In this experiment, the position of the MPs *nog* and *visst* and sentence adverbs with respect to DP subjects (given and new) in the middle field is tested. The goal is to test the assumption from the syntactic analysis, cf. chapter 4, that these MPs are distinct from sentence adverbs and surface in a high position in the middle field above any sentence adverb. Additionally, the claim that the sentence adverbs mark the border between given and new information will once again be tested. In the previous experiment a marginal effect was found. Given the assumption that MPs and sentence adverbs occur in different positions, it is not expected that the MPs show the same interaction with information structure of DPs as the sentence adverbs do.

### *Hypothesis:*

The MPs *nog* and *visst* are not sentence adverbs but occur in a position higher up in the clause than the sentence adverbs. As a result thereof, the MPs do not show the same interaction with information structure as sentence adverbs.

### *Additional hypothesis:*

Sentence adverbs mark the border between given and new information in the clause.

### 5.2.1. Methods

**Participants** The participants were 52 native speakers of Swedish (from different regions) between the age of 20 and 76. They all participated voluntarily. 28 of the participants were rewarded for participation, 24 were not paid. Payment was introduced to motivate more participants.

**Materials and design** There were 24 experimental items and the design of the experiment was two factorial with the two factors: INFORMATION STRUCTURE (GIVEN or NEW DP subject) and ADVERB/MP in a Latin square design. The factor INFORMATION STRUCTURE was introduced by the context setting clause. In the context GIVEN, the DP subject of the target clause was mentioned in the context clause. In the context NEW, the DP subject was not mentioned in the context clause, cf. (115). The dependent variable WORD



ORDER (Adverb/MP >DP or DP>Adverb/MP) was tested for in the target sentences, which contained either a sentence adverb or a MP.

The structure of the target was: a clause initial temporal or locative adverbial (adverb or prepositional phrase), an intransitive verb in the present tense, a DP subject, a MP or adverb, a clause final adverbial (adverb or PP), cf. (116). The DP subjects were equally balanced for number (singular and plural definite nouns). There were two versions of each item, one version with a MP (*nog* or *visst*, equally distributed) and one with a sentence adverb. Each sentence adverb occurred in only one item, i.e. 24 sentence adverbs were used.

The material was distributed onto 4 lists, each of which contained only one condition of each item. On each list there were 30 fillers, of which 24 were items of experiment 6, cf. 5.8, and 6 control items to test attention throughout the experiment, cf. the appendix A.2 for the full set of materials.

(115) **Context: Factor: INFORMATION STRUCTURE**

- a. **Given** *Björnen i djurparken är inte vaken hela året runt.*  
 bear.DEF in zoo.DEF is not awake whole year around  
 The bear in the zoo is not awake the whole year around.
- b. **New** *Så här års är det lugnt i djurparken.*  
 so here year.POSS is it calm in zoo.DEF  
 It is quite peaceful at the zoo this time of the year.

(116) **Targets**

a. **Adverb**

ADV>DP *På vintern sover förstås björnen i sitt ide.*  
 on winter.DEF sleep of course bear.DEF in its den  
 PP V ADV DP PP

DP>ADV *På vintern sover björnen förstås i sitt ide.*  
 on winter.DEF sleep bear.DEF of course in its den  
 PP V DP ADV PP

In the winter, the bear of course sleeps in its den.

b. **MP**

MP>DP *På vintern sover visst björnen i sitt ide.*  
 on winter.DEF sleep MP bear.DEF in its den  
 PP V MP DP PP

DP>MP *På vintern sover björnen visst i sitt ide.*  
on winter.DEF sleep bear.DEF MP in its den  
PP V DP MP PP  
In the winter, the bear sleeps in its den it seems.

**Procedure** The method of the experiment is a forced choice test. The experiment was conducted with a web-based questionnaire with a total of 60 items (6 practice items, 24 items, 30 fillers). Each item was presented separately, with one of two possible context clauses, cf. example (115). The two possible target sentences, with different word orders, were presented underneath the context sentence and beneath each other. The order of the two choices was randomized. The participants were asked to choose the most naturally sounding alternative in the context.

**Predictions** It is expected that DP subjects precede the MPs to a lesser extent than DP subjects precede sentence adverbs, as only the sentence adverbs are assumed to occur on the border between given and new information. This outcome would speak in favour of an analysis of the MPs as distinct from sentence adverbs. Additionally, if DPs can precede these MPs, then these MPs are also not clitic elements, and thus the analysis of the MPs as located somewhere between the MPs *ju* and *väl* and sentence adverbs as presented in chapter 4 can be maintained.

### 5.2.2. Results

The mean proportions of choice of the order DP subject > ADVERB/MP are given in table 5.4 and presented graphically in figure 5.2.

Condition	mean	sd	datapoints
Adv Given	0.6250000	0.4849006	312
Adv New	0.6634615	0.4732846	312
MP Given	0.3525641	0.4785359	312
MP New	0.2596154	0.4391279	312

Table 5.4: Mean proportions of DPs > sentence adverbs or the MPs *nog/visst*

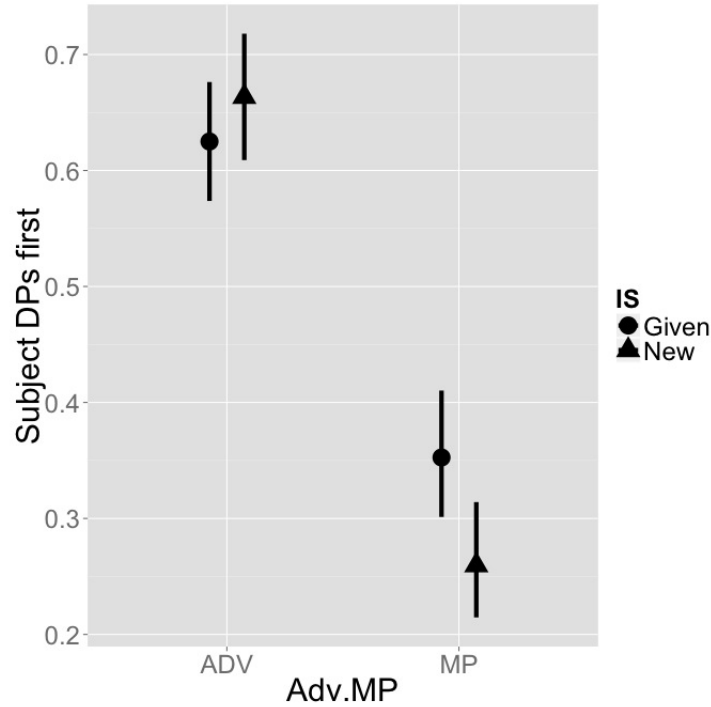


Figure 5.2: Results: Mean Proportions and confidence intervals (95%) of subject DPs > sentence adverbs or the MPs *nog/visst*.

The analysis of the data was conducted using a general linear mixed-effects model with a binominal logit function and testing models for best fit (measuring model adequacy with AIC). The best model included the fixed effects of ADVERB/MP and INFORMATION STRUCTURE and their interaction. The random effects were random intercepts and random slopes for ADVERB/MP for ITEM as well as PARTICIPANT, and a correlation of intercept and slope. The best model is shown in (117). The model parameters are given in table 5.5.

$$(117) \quad \mathbf{Answer} \sim \text{Adv.MP} * \text{IS} + (1 + \text{Adv.MP} | \text{Participant}) + (1 + \text{Adv.MP} | \text{Item})$$

The statistic analysis revealed a main effect of ADV/MP, ( $p < 0.001$ ), no significant effect of INFORMATION STRUCTURE, but a significant interaction between the two parameters ( $p < 0.05$ ), see table 5.5.

	Estimate	Std. Error	z-value	p-value
Intercept	-0.143	0.161	-0.891	> 0.1
Adv.MP	0.892	0.119	7.478	<0.001
IS	0.087	0.067	1.295	> 0.1
Adv.MP*IS	-0.187	0.067	-2.785	< 0.005

Table 5.5: Modelparameters for experiment 2

	(Intr)	Adv.MP1	IS1
Adv/MP	0.019		
Information Structure	-0.033	0.028	
Adv/MP: Information Structure	0.021	-0.045	-0.041

Table 5.6: Correlation of fixed effects for experiment 2

The interaction was, as in the previous experiment, resolved by the factor ADVERB/MP. However, the results are different for the results of experiment 1. For the ADVERB subset, INFORMATION STRUCTURE had no significant effect (estimate= -0.10039, se=0.093, z= -1.081, p>0.05). In this subset, given subject DPs (62%) precede sentence adverbs less often than new subject DPs (66%). In the MP subset INFORMATION STRUCTURE had a significant effect (estimate= 0.271, se= 0.096, z= 2.810, p< 0.005).

A post hoc analysis shows that INFORMATION STRUCTURE only is a significant factor with the MP *visst*, (estimate=0.344, se=0.133, z=2.585, p<0.001). For *nog* INFORMATION STRUCTURE is not significant (estimate=0.2270, se= 0.1573, z=1.443, p>0.001). Given DP subjects precede *visst* in 43 % of the tested clauses, but only 30% of the new DPs precede *visst*. For *nog* the numbers are: given DPs precede in 27%, and new in 22% of the tested clauses.

A further post hoc analysis shows that, disregarding the effect of information structure, the individual MP has a significant effect on the positioning of DPs. DP subject are overall more likely to precede the MP *visst* (36%) than the MP *nog* (25%), p < 0.01.

### 5.2.3. Discussion of the results

The significance of the factor ADVERB/MP shows that there is a difference between MPs and adverbs. DPs precede MPs less frequently than they precede sentence adverbs, and this result is in line with the assumption that MPs occur

in a higher position than sentence adverbs in the middle field. The significant difference between the two MPs for the position of the DP is unexpected, but might also show that the MP *visst* is in a lower position than *nog*. The subset containing *visst* is also the only set in which INFORMATION STRUCTURE has a significant effect. Could this mean that *visst* separates given from new information? This will be tested further in the two experiments presented in the sections 5.4 and 5.5, but it must be noted the number of DPs preceding this MP is rather low in total and one might expect greater differences if the MP were to mark any border.

The lack of a significant effect of INFORMATION STRUCTURE in the ADVERB condition means that there is a failure to verify the results from experiment 1 in the subset with sentence adverbs.

If any other category of INFORMATION STRUCTURE affects the position of the DP subjects will also be tested in the two experiments presented in the sections 5.4 and 5.5.

### 5.3. Summary of the given/new DP experiments

Performing post hoc analyses on the data of the two experiments with DP subject, i.e. experiment 1 and 2, gives us a possibility to directly compare the two types of MPs, recall analysis in chapter 4, to see if there is a difference between the two types of MPs with respect to their linearisation with DP subjects. The results are presented graphically in figure 5.3.

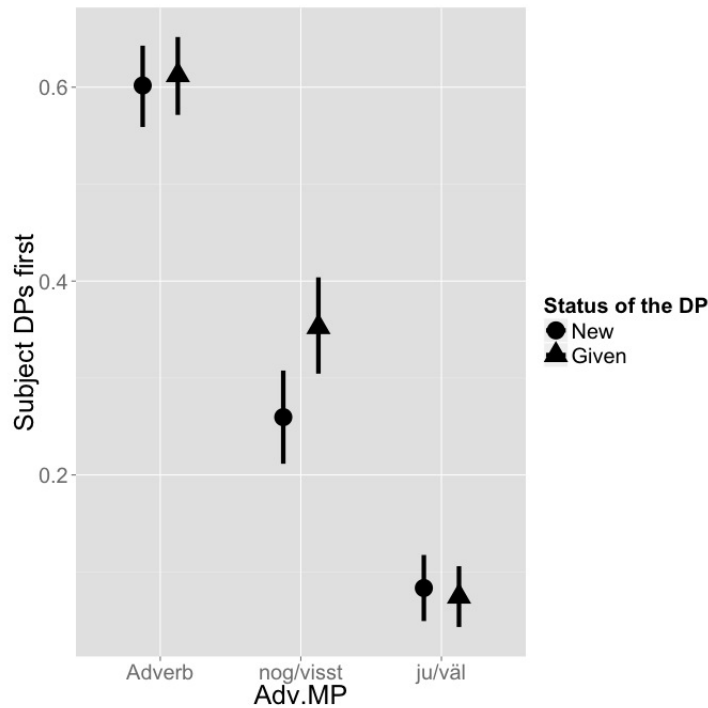


Figure 5.3: The position of subject DPs in relation to sentence adverbs, the MPn *nog/visst* and the MPs *ju/väl*.

A post hoc analysis also allows us to further explore the effect of information structure on the positioning of DP subject with respect to sentence adverbs. This is necessary, as the results from the two experiments differed. In experiment 1 given DP subjects precede sentence adverbs more often than new DP subjects. In experiment 2, the reversed pattern emerged and there was no significant effect of information structure, i.e. the findings of experiment 1 could not be reproduced. An analysis of all the data with DP subjects and sentence adverbs also shows that, in total, given DP subjects precede sentence adverbs in 61% of the cases, and new DP subjects in 60%. The factor INFORMATION STRUCTURE has no significant effect, (estimate=-0.08119,

sd=0.13490, z= -0.602,  $p > 0.05$ . This mean that information focus does not have an effect on the position of the DPs with respect to sentence adverbs.

Turning to the MPs, the analysis shows that there is a very significant effect of the two types of MPs, i.e. *ju* and *väl* on the one hand and *nog* and *visst* on the other hand,  $p < 0.001$ . The assumption that there are two types of MPs that differ with respect to their position in the middle field can be maintained. The hypothesis that the MPs *ju* and *väl* are clitics can also be maintained, as they always occur immediately to the right of the finite verb in second position. In less than 8 % of the data did a DP intervene between the MP and verb, which I analyse as a normal error rate. Further, it is possible to differentiate between sentence adverbs and the MPs *nog* and *visst* based on their position in the middle field of a matrix clause. It is thus possible to maintain the claim that these MPs occur in a position above the sentence adverbs, as DPs precede these MPs to a much lesser extent than sentence adverbs. However, the details of the linearisation of the MPs *nog* and *visst*, adverbs and DP subjects are still unknown. Is the difference related the information structural properties of the DPs? In two follow up experiments, it will be tested if the MPs *nog* and *visst* and adverbs mark different information structural borders, as the effect of other categories of information structure on the position of DP subjects in the middle field will be tested.

## 5.4. Experiment 3: DPs, givenness, focus and contrast

In the previous experiments with DPs presented in section 5.1 and 5.2, it was shown that the information structural categories GIVEN and NEW did not have any effect on the position of the DP subjects with respect to sentence adverbs. (In experiment 1, there was a slight preference for given DP subjects to precede the adverbs. In experiment 2, new DP subjects were more likely to precede the adverbs, but none of the preferences were significant.) These findings are unexpected, given the assumption that adverbs mark the border of given and new information, and given information is assumed to precede adverbs rather than new information, cf. among others Diesing (1992). The results also showed that, against the expectations, the information structural status had an effect on the position of the subject DP only with the MP *visst*. These results call for further investigation and in two follow up experiments it will be tested whether a finer information structural distinction might give further insight into the positioning of DP subjects with respect to sentence adverbs and the MPs *nog* and *visst*<sup>3</sup>.

Up until now I have only tested the assumption that information structure has an effect on the position of DPs in the middle field. Svenonius (2001) and Holmberg (1993) both argue that the position of subjects in the middle field is related to focus and that the position following a sentence adverb is a focus position. However, Platzack (2009) argues that information structure does not affect the position of elements in the middle field. The results of the previous experiments support Platzack's claim, but before any effect of information structure on the linearisation in the middle field is refuted, a more detailed differentiation of information structural categories must be tested. Thus, the claim that focus is related to the position following sentence adverbs will be tested once again with other categories of focus.

According to Kiss (1998), among others, it is necessary to distinguish between different types of focus; information and identification focus. The former is related to newness<sup>4</sup> and the latter to sets of alternatives, i.e. identifica-

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<sup>3</sup>This follow up experiments only test sentence adverbs and the MPs *nog* and *visst*. The results of experiment 1 (DPs and *ju/väl*) show that independent of the status of the DP, it only precedes these MPs in less than 10 % of the cases.

<sup>4</sup>This type of focus was tested in experiment 1 and 2, but did not have any effect on the



tional focus indicates the presence of alternatives as defined by Rooth (1992). Further, identification focus can be either contrastive or not contrastive. Contrastive identification focus is possible whenever there is a closed set of possible alternatives present in the discourse. If there only is an open set (as after *wh*-questions without explicit stating of alternatives), the identification focus is non-contrastive.

As no distinction between different types of focus is made in the literature on Swedish, it is unclear if the position following a sentence adverb is reserved for non-contrastively focused or for explicitly contrasted elements. The claim that the position following any sentence adverb is a focus position is based on data with pronouns in Swedish, which display a strong correlation between position w.r.t. sentence adverbs and stress. Only stressed pronouns may follow sentence adverbs, unstressed must precede these<sup>5</sup>. This relation between position and stress gives an indication of which type of focus might be expressed in the position following the sentence adverb.

With respect to the relation between phonology and information structure, Katz and Selkirk (2011) claim that contrastive focus has a greater effect on the phonological properties (i.e. prosodic prominence as opposed to pitch accent and prosodic constituent structure) of the constituents than information focus. This is also found in other languages, see Vermeulen (2012). However, Katz and Selkirk (2011) do not make any distinction between explicit and implicit contrast, but Selkirk (2008) claims that contrast rather than focus triggers phonetic stress. Kiss (1998), discussing English and Italian data, shows that only explicit contrast might have any effect on the position of the constituent. If Selkirk's and Kiss's claims are right, i.e. if contrast triggers phonetic stress, and contrast affects the position of entities, with the additional assumption that the position after the adverb is a phonologically prominent position, as is indicated by data with pronouns in Swedish, we can hypothesise that the position after the sentence adverbs might be a contrast position. This is only a speculation and the interested reader is referred to Repp (2016) for a detailed discussion of the expression of contrast in various languages.

The assumption will be tested in the two following experiments, as I, in line with the classification of implicit and explicit contrast developed in Repp

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position of the DPs.

<sup>5</sup>This relation between stress and position of the pronoun will be discussed in detail in chapter 6.

(2016), will make a distinction between implicit and explicit contrast on DP subjects and test if there is an effect on the position of the DPs with respect to sentence adverbs as well as the MPs *nog* and *visst*.

In this experiment the position of DP subjects in relation to adverbs and the MPs *nog* and *visst* is tested in the following three conditions:

1. +GIVEN, -FOCUS, -EXPLICIT CONTRAST
2. +GIVEN, +FOCUS, -EXPLICIT CONTRAST
3. +GIVEN, +FOCUS, +EXPLICIT CONTRAST

Condition (1) does not contain any focus, not even information focus, as the DP subject is given, condition (2) contains an identification focus with an implicit contrast to other members of a set, condition (3) tests identification focus with an explicit contrast by contrasting the DP of the target clause to an explicitly mentioned individual in the context clause. The fourth possible combination, +GIVEN, -FOCUS, +EXPLICIT CONTRAST, is excluded, since it is not possible to have contrast without focus. The research question is thus: does focus or explicit contrast influence the position of the DPs? If only contrastive focus receive prosodic prominence, as stated by Katz and Selkirk (2011), and the position following the adverb is one compatible with prosodic prominence, then only +GIVEN, +FOCUS, +EXPLICIT CONTRAST DPs will follow the adverbs whereas +GIVEN, +FOCUS, -EXPLICIT CONTRAST DPs may precede the adverbs.

*Hypothesis:*

The MPs occur in a position above any sentence adverb. It is not expected that the MPs mark the same information structural border as sentence adverbs, but DPs will overall be more prone follow the MPs *nog* and *visst* than sentence adverbs. Additionally, there might be an interaction between information structure and the MP *visst*, as there was an interaction between *visst* and information structure in experiment 2, i.e. an effect of focus and/or contrast might be present with *visst*. This is not expected for *nog*.

*Additional hypothesis:*

Sentence adverbs mark the border of unfocused and focused information, i.e. they mark the border between unstressed and prosodically prominent material in the clause. There will be some interaction with information structure in the sentence adverb condition if any category thereof is linked to prosodic prominence. If CONTRAST is marked prosodically, then this category might be the only one affecting the position of the DP.

**5.4.1. Method**

**Participants** The participants were 36 native speakers of Swedish between the age of 18 and 75. They all participated voluntarily without payment.

**Materials and design** There were 36 experimental items and the design of the experiment was  $2 \times 3$  with the factors: INFORMATION STRUCTURE (GIVEN, FOCUS or FOCUS AND CONTRAST DP subject) and ADVERB/MP (only *nog* and *visst*). The factor INFORMATION STRUCTURE was introduced by the context setting clause. In order to induce the condition GIVEN, the DP subject of the target clause was introduced in the context clause. In the FOCUS condition, the DP subject was mentioned in the context clause as well as a superset of the DP in order to introduce an implicit alternative set. To induce the FOCUS AND CONTRAST condition, the DP subject was mentioned and explicitly contrasted with an other DP, cf. (118). The dependent variable *word order* (ADVERB/MP > DP or DP > ADVERB/MP) was tested for in the target sentences, which contained either a sentence adverb or a MP (*nog* and *visst*). The targets had the following structure: a clause initial temporal adverbial (adverb or prepositional phrase (PP)), an intransitive verb in the present tense, a subject DP, a MP or adverb, a clause final adverbial. i.e. temporal, locative or instrumental (adverb or PP), cf. example (119) and (120).

The subject DPs were equally balanced for number (singular and plural DPs). There were two versions of each item, one version with a MP (*nog* or *visst*, equally distributed) and one with a sentence adverb. Each sentence adverb occurred 2 times, i.e. 18 sentence adverbs were used. In the CONTRAST

condition, half of the given DPs were introduced as the first part of the pair and in the other half as the second part of the pair in the context clause. This distribution was also equally balanced between singular and plural, 9 each, and across the MPs.

The material was distributed onto 6 lists, each of which contained only one condition of each item. On each list there were 35 fillers, of which 28 were filler items and 7 control items to test attention throughout the experiment, cf. appendix A.3 and A.7 for the full set of materials. The 28 filler items tested the preferred word order in main clauses with respect to the position of a temporal adverbial phrase (clause initial or clause final). The verbs of the fillers were transitive verbs, in future tense (14 with the modal verb *måste* (*must*), 14 with the auxiliary *ska* (*will*)).

(118) Contexts:

a. +given, −foc, −contrast

*Björnen i djurparken syns inte så här års.*

bear.DEF in zoo.DEF be visible not so here year

The bear at the zoo is not visible at this time of the year.

b. +given, +foc, −contrast

*Björnen i djurparken syns inte så här års. Det gäller för*

bear.DEF in zoo.DEF be seen not so here year that holds for

*många djur.*

many animals.

The bear at the zoo is not visible at this time of the year. That is true for many animals.

c. +given, +foc, +contrast

d. *Vilket djur i djurparken syns inte så här års, vargen*

which animal in zoo.DEF be seen not so here year wolf.DEF

*eller björnen?*

or bear.DEF

Which animal at the zoo is not visible at this time of the year, the wolf or the bear?

(119) Targets MPs

a. *På vintern sover nog björnen i sitt ide.*

on winter.DEF sleeps NOG bear.DEF in its den

In the winter, the bear sleeps in its den.

- b. *På vintern sover björnen nog i sitt ide.*  
 on winter.DEF sleeps bear.DEF NOG in its den  
 In the winter, the bear sleeps in its den.

(120) Targets Adverbs

- a. *På vintern sover naturligtvis björnen i sitt ide.*  
 on winter.DEF sleeps of course bear.DEF in its den  
 In the winter, the bear of course sleeps in its den.
- b. *På vintern sover björnen naturligtvis i sitt ide.*  
 on winter.DEF sleeps bear.DEF of course in its den  
 In the winter, the bear of course sleeps in its den.

**Procedure** The method of the experiment is a forced choice test. The experiment was conducted with a web-based questionnaire with a total of 74 items (3 practice items, 36 items, 35 fillers (28 filler items and 7 control questions)). Each item was presented separately, with one of three context clauses, cf. (118). The two possible target sentences with different word orders were presented underneath the context sentence and beneath each other. The order of the two targets was randomized. The participants were asked to choose the most naturally sounding alternative.

**Predictions** If the position following the sentence adverbs is a prosodically prominent position, and this prominence is related to an expression of contrast, it is expected that CONTRAST will effect the position of the DPs with respect to sentence adverbs to a greater extent than FOCUS. If prosodic prominence is related to FOCUS, than both focused (implicitly contrasted) and explicitly contrasted subject DPs should follow the adverbs. Further, given the assumption that MPs and sentence adverbs occur in distinct positions, it is not expected that FOCUS and/or CONTRAST will have the same effect of the position of the DPs with respect to the MPs *nog* and *visst*.

### 5.4.2. Results

The mean choice of order of DPs preceding adverbs or MPs are given in table 5.7 and presented graphically in figure 5.4.

Condition	mean	sd	datapoints
ADV - Contrast DP	0.486	0.501	216
ADV - Focus DP	0.639	0.481	216
ADV - Given DP	0.6481	0.479	216
MP - Contrast DP	0.255	0.437	216
MP - Focus DP	0.419	0.494	215
MP - Given DP	0.361	0.481	216

Table 5.7: Mean proportions of GIVEN, FOCUSED or CONTRASTED DP subjects > sentence adverbs or the MPs *nog/visst*

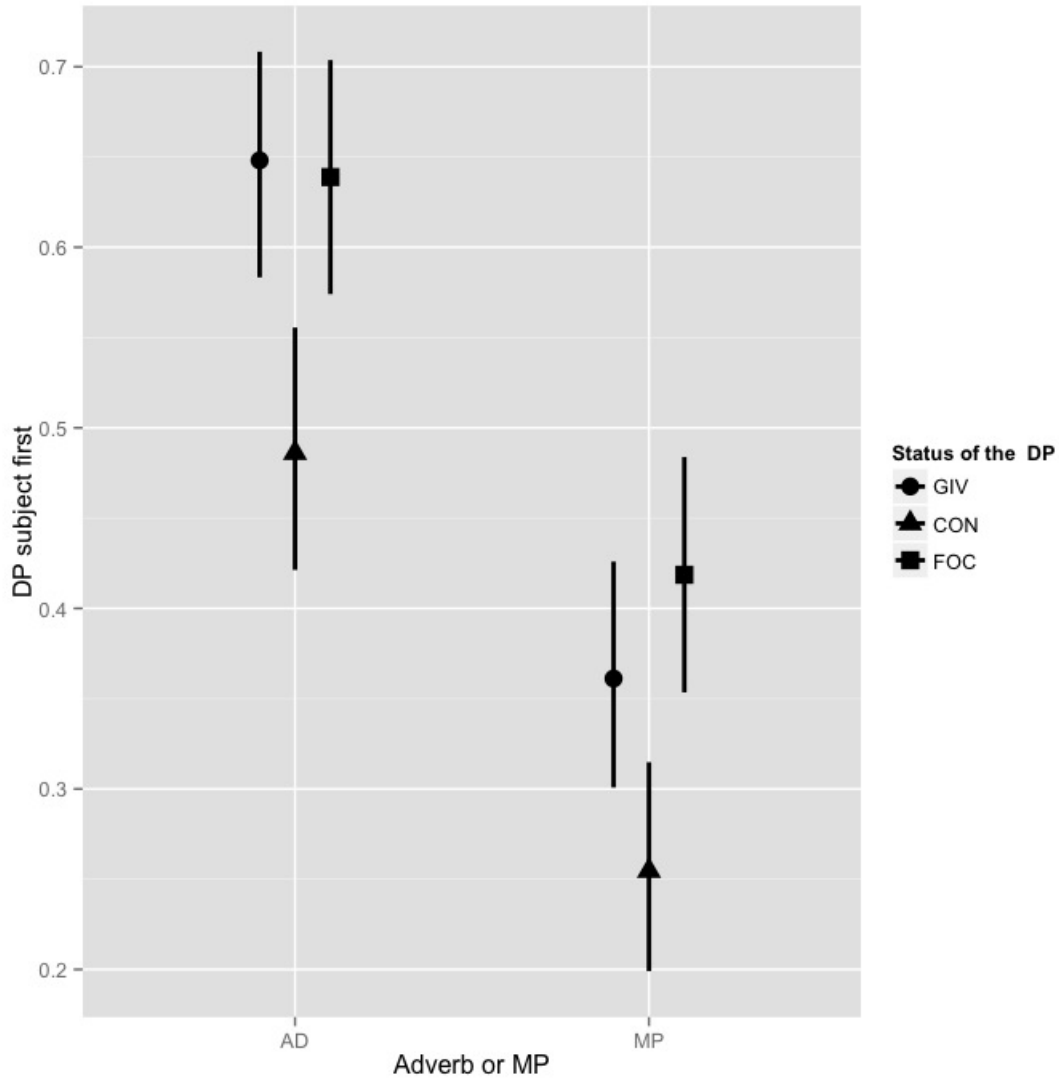


Figure 5.4: Results: Mean proportions and confidence intervals (95%) of GIVEN, FOCUSED or CONTRASTED DP subjects > sentence adverbs or the MPs *nog/visst*.

The analysis of the data was conducted using a general linear mixed-effects model with a binominal logit function and testing models for best fit (measuring model adequacy with AIC). The best model included the fixed effects of ADVERB/MP and INFORMATION STRUCTURE and no interaction between the two factors. The random effects were a random intercept for ITEM, a random intercepts and random slopes for PARTICIPANT for the variable ADVERB/MP and for the variable INFORMATION STRUCTURE as well as correlations between the intercepts and slopes.

The best model is shown in (121). The model parameters are given in table 5.8.

(121) Best model: Answer  $\sim$  Adv.MP + IS + (1 |Item)+ (1 + Adv.MP |Participant) + (1 + IS |Participant)

	Estimate	Std. Error	z value	p value
(Intercept)	-0.03141	0.24483	-0.128	> 0.05
Adv.MP1	0.68501	0.09022	7.593	< 0.001
IS: Contrast	-0.71215	0.23557	-3.023	< 0.01
IS: Focus	0.16504	0.17749	0.930	> 0.05

Table 5.8: Model parameters for experiment 3

	(Intr)	Adv.MP1	IS Con
Adv.MP1	-0.317		
IS CON	-0.622	-0.042	
IS FOC	-0.471	0.013	0.303

Table 5.9: Correlation of fixed effects experiment 3

There is a significant effect of the factor ADVERB/MP,  $p < 0.001$ . Of the information structural categories only the category of CONTRAST had a significant effect,  $p < 0.001$ . In the random effects there is a correlation between the intercept and the ADVERB/MP for each participant. A closer inspection of this correlation shows that the higher the intercept, the more significant is the effect of the factor ADVERB/MP. Further, a closer inspection of the data with a simultaneous test for general linear hypotheses shows that CONTRAST has a significant effect compared to the baseline GIVEN ( $p < 0.05$ ) as well as to the FOCUS condition ( $p < 0.05$ ). This shows that the significant effect in

the CONTRAST condition comes from the explicit contrast and not from focus (which is always implied in the contrast condition).

As the previous experiments showed that there might be difference between the MPs *nog* and *visst*, I performed an additional post hoc analysis of the subset containing only MPs. It shows that the INFORMATION STRUCTURE is marginally significant in the CONTRAST condition. FOCUS has no significant effect. There is no significant effect of the type of MP, i.e. if *nog* or *visst*,  $p > 0.05$ , i.e. the result from experiment 2, that *visst* interacts with information structure, could not be repeated.

### 5.4.3. Discussion of the results

The mean values for the position of given DPs with respect to MPs and sentence adverbs are approximately a repetition of the numbers for given DPs in experiment 3: 62,5 % for the DPs preceded the adverbs in the previous experiment, and 65% precede adverbs in this experiment. For DPs preceding the MPs the mean values are 35,2 % of DP preceding the MPs *nog* and *visst* in experiment 2, and and 36,1 % in this experiment. This shows that the results from experiment 2 with respect to the overall distribution of DPs in relation to sentence adverbs and MPs, could be validated in this experiment. The MPs *nog* and *visst* differ from sentence adverbs, i.e. possibly by occurring in a higher position in the IP-domain than the sentence adverbs.

The best overall model of this experiment shows that only the information structural category of CONTRAST has a significant effect on the position of the DPs. The effect was larger in the adverb than in the MP condition. However, it is not possible to claim that there is an absolute effect of CONTRAST on the position of DPs with respect to adverbs, as the distribution of contrasted DPs is 49% preceding and 51% following the adverbs, i.e. random distribution.

Further, the result that focused DPs are more prone to precede sentence adverbs than follow these (64% vs. 36%) speaks against the assumption that the position following the sentence adverb is a focus position,

The results are in line with Platzack's 2009 statement that the position of DPs is not dependent on their information structural status, and speak against the analyses by Svenonius (2001) and Holmberg (1993) of the position following a sentence adverb as a focus position.

The results of this experiment also show that DP subjects, independent on



their information structural status, are less prone to precede the MPs than sentence adverbs. Thus, even though the results did not give any further hints on the difference between MPs and sentence adverbs with respect to information structure, it shows that there is a difference between these two in the aspect of their relation to DPs in general. In the subset of MPs, CONTRAST is the only category affecting the position of the DPs. This is the same category as in the subsets of adverbs. It is interesting to note that the same information structural status shows an interaction with both the MPs and sentence adverbs. This will be explored further in next experiment. In the next experiment all DP subjects will be NEW (as opposed to GIVEN) and this allows to test if there was any additive effect by GIVEN on the position of the DPs in this experiment.

## 5.5. Experiment 4 DPs; newness, focus and contrast

The second follow up experiment tests the effect of FOCUS and CONTRAST on new DPs. New information is frequently analysed as focused, i.e. information or discourse-new focus. In the previous experiments (experiment 1 and 2 with new and given DPs and *ju/väl* and *nog/visst*) it showed that there was no effect of newness on the position of the subject DP in relation to adverbs, i.e. information focus in the sense of Kiss (1998) has no effect. In experiment 3 it showed that only the information structural category of explicit contrast had an effect on the position of the DPs, both in relation to adverbs as well as to the MPs *nog* and *visst* but, with respect to adverbs, the distribution could also be random. In order to rule out that there were any additive effects of givennes in the previous experiment, which led to this random distribution, this experiment will test new DPs. In this experiment the following three conditions will be tested:

1. +NEW, -FOCUS, -EXPLICIT CONTRAST
2. +NEW, +FOCUS, -EXPLICIT CONTRAST
3. +NEW, +FOCUS, +EXPLICIT CONTRAST

Condition (1) only contains information focus, as a result of newness of the DP, condition (2) a identification focus, i.e. an implicit contrast to an open set of alternatives (induced by a *wh*-question in the context clause), condition (3) an explicit contrast, i.e. contrasting to an explicitly mentioned individual. In the previous experiment the contrast was exhaustive, whereas in this experiment the contrast will be additive, cf. Krifka (2007) and Repp (2010). If this has any effect of the results will be discussed closer in section 5.6.

The main research question of this experiment is: Will explicit contrast affect the position of the DPs? If only contrastive focus receive prosodic prominence, as stated by Katz and Selkirk (2011), and the position following the adverb is one compatible with prosodic prominence, then only [+focus, +contrast] DPs will follow the adverbs. [+focus, -contrast] DPs may precede the adverbs. Additionally, this experiment also addressed the question

whether there is an additive effect of NEW/GIVEN in combination with FOCUS or CONTRAST.

*Hypothesis:*

The MPs *nog* and *visst* will be preceded by DP subjects, independently of their information structural status, less frequently than sentence adverbs. There might be an interaction between information structure and the MP *visst*, as there was an interaction between *visst* and information structure in experiment 2, and there also might be an additive effect of NEWNESS to FOCUS and CONTRAST.

*Additional hypothesis:*

For the sentence adverbs there will be some interaction with at least one of the categories of information structure. Drawing from the results of the previous experiments, it is expected that only CONTRAST will have an effect. However, the effect might be greater if there is an additive effect of NEWNESS to FOCUS and CONTRAST.

### 5.5.1. Method

**Participants** The participants were 36 native speakers of Swedish between the age of 19 and 74. They all participated voluntarily and without payment.

**Materials and design** There were 36 experimental items and the design of the experiment was 2×3 with the factors: INFORMATION STRUCTURE: NEW, FOCUS and CONTRAST and ADVERB/MP (sentence adverbs and the MPs *nog* and *visst*). The factor INFORMATION STRUCTURE was introduced by the context setting clause. In order to induce the status NEW, the DP subject of the target clause was not introduced in the context clause. To achieve FOCUS, a *wh*-question introduced an implicit alternative set. CONTRAST was induced by adding an other DP to the context and an additional question, cf. (122).

The dependent variable *word order* (Adverb/MP > DP or DP > Adverb/MP) was tested for in the target sentences, which contained either a sentence adverb or a MP (*nog* and *visst*). The targets had the following structure: a clause

initial temporal or locative adverbial (adverb or prepositional phrase (PP)), an intransitive verb in the present tense, a subject DP, a MP or adverb, a clause final adverbial (adverb or PP), cf. (123) and (124).

The subject DPs were equally balanced for number (singular and plural definite nouns). There were two versions of each item, one version with a MP (*nog* or *visst*, equally distributed) and one with a sentence adverb. Each sentence adverb occurred 2 times, i.e. 18 sentence adverbs were used.

The material was distributed onto 6 lists, each of which contained only one condition of each item. On each list there were 35 fillers, of which 28 were filler items and 7 control items to test attention throughout the experiment. The 28 filler items tested the preferred word order in main clauses with respect to the position of a temporal adverbial phrase (clause initial or clause final). The verbs were transitive verbs, in future tense (14 with the modal verb *måste* (*must*), 14 with the auxiliary *ska* (*will*)), cf. appendix A.4 and A.7 for the full set of materials.

(122) Contexts:

- a. +new, −foc, −contrast

*Så här års är det lugnt i djurparken.*

so here year is it calm in zoo.DEF

*It is calm in the zoo at this time of the year.*

- b. +new, +foc, −contrast

*Vilka djur i djurparken syns inte så här års?*

which animals in zoo.DEF see.PASS not so here year

*Which animals at the zoo are not visible at this time of the year.*

- c. +new, +foc, +contrast

*Grävlingen i djurparken syns inte så här års. Vilka*

badger.DEF in zoo.DEF see.PASS not so here year which

*andra djur syns inte heller?*

other animal sees not either

*The badger at the zoo is not visible at this time of the year. Which*

*other animals are not possible to see?*

(123) Targets MPs

- a. *På vintern sover nog björnen i sitt ide.*

On winter.DEF sleep NOG bear.DEF in its den

*In the winter, the bear sleeps in its den.*

- b. *På vintern sover björnen nog i sitt ide.*  
 On winter.DEF sleep bear.DEF NOG in its den  
 In the winter, the bear sleeps in its den.

(124) Targets Adverbs

- a. *På vintern sover naturligtvis björnen i sitt ide.*  
 On winter.DEF sleep of course bear.DEF in its den  
 In the winter, the bear sleeps in its den.
- b. *På vintern sover björnen naturligtvis i sitt ide.*  
 On winter.DEF sleep bear.DEF of course in its den  
 In the winter, the bear sleeps in its den.

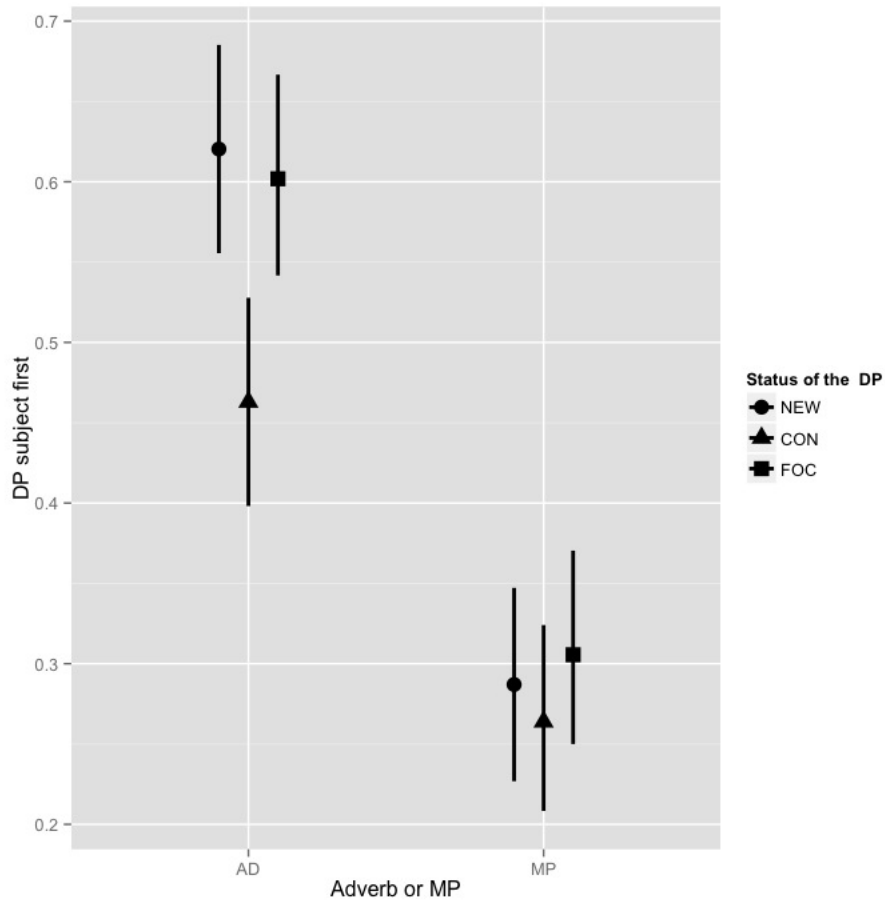
**Procedure** The method of the experiment is a forced choice test. The experiment was conducted with a web-based questionnaire with a total of 74 items (3 practice items, 36 items, 35 fillers). Each item was presented separately, with one of the three context clauses, cf. (122). The two possible target sentences with different word orders were presented underneath the context sentence and beneath each other. The order of the two targets was randomized. The participants were asked to choose the most naturally sounding alternative.

**Predictions** Possible results of this experiment is either that the findings of experiment 3 are repeated, i.e. only explicit CONTRAST has a significant effect on the position of subject DPs in the middle field with respect to MPs and adverbs. However, it is also possible that FOCUS has an effect as well in this experiment. This could be explained by an underlying effect of GIVENESS/NEWNESS, i.e. there might be an additive effect of NEWNESS when combined with FOCUS is combined.

### 5.5.2. Results

In table 5.10, the mean values for DPs preceding sentence adverbs and the MPs *nog* and *visst* are given and they are presented graphically in figure 5.5.

Condition	mean	sd	datapoints
ADV - Contrast DP	0.463	0.500	216
ADV - Focus DP	0.602	0.491	216
ADV - New DP	0.620	0.486	216
MP - Contrast DP	0.264	0.442	216
MP - Focus DP	0.306	0.462	216
MP - New DP	0.287	0.453	216

Table 5.10: Mean proportions of DPs > sentence adverbs or the MPs *nog/visst*Figure 5.5: Results: Mean proportions and confidence intervals (95%) of NEW, FOCUSED OR CONTRASTED subject DPs > sentence adverbs or the MPs *nog/visst*

The analysis of the data was conducted using a general linear mixed-effects model with a binominal logit function and testing models for best fit (measuring model adequacy with AIC). The best model included the fixed effects

of ADVERB/MP and INFORMATION STRUCTURE and no interaction between the two. The random effects were a random intercept for ITEM, a random intercepts and random slopes for PARTICIPANT for the variable ADVERB/MP as well as correlations between the intercepts and slopes. ADVERB/MP shows a significant effect,  $p < 0.001$ . Of the information structural categories only the CONTRAST is significant,  $p < 0.005$ .

The best model is shown in (125). The model parameters are given in table 5.11.

(125) Best model: Answer  $\sim$  Adv.MP + IS + (1 |Item)+ (1 + Adv.MP |Participant)

	Estimate	Std. Error	z-value	p-value
Intercept	0.44305	0.20358	2.176	< 0.05
Adv.MP	1.45992	0.19731	-7.399	<0.001
Contrast	-0.49628	0.15946	-3.112	< 0.005
Focus	0.01284	0.15691	0.082	> 0.1

Table 5.11: Model parameters for experiment 4

	(Intr)	Adv.MP1	Contrast
Adv/MP	-0.181		
Contrast	-0.392	0.038	
Focus	-0.384	-0.002	0.490

Table 5.12: Correlation of fixed effects for experiment 4

As in experiment 3, a closer inspection of the data with a simultaneous test for general linear hypotheses shows that the CONTRAST has a significant effect compared to the baseline NEW ( $p < 0.05$ ) as well as to the FOCUS condition ( $p < 0.05$ ). The significant effect in the CONTRAST condition does in deed come from CONTRAST and not from FOCUS (which always is implied in the contrast condition). A post hoc analysis showed that there is a difference between the two MPs, i.e. *nog* or *visst*,  $p < 0.05$ . and the two types differ as follows: overall new DPs are less likely to precede *nog* (19,5 %), but most likely to precede *visst*, (33 %),  $p < 0.005$ . However, there was no significant effect of information structure in this subset, i.e. the findings of experiment

2 of an interaction between information structure and *visst* could once again not be repeated.

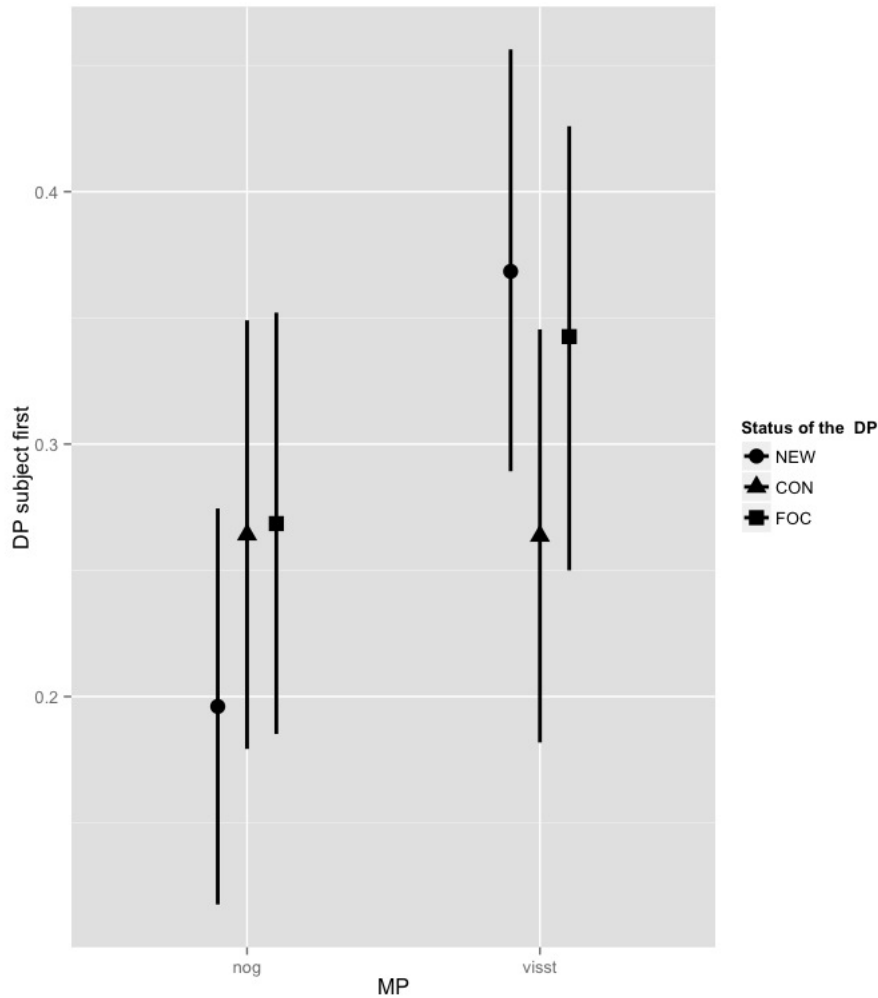


Figure 5.6: Results: Mean proportions and confidence intervals (95%) of subject DPs > the MPs *nog/visst*

### 5.5.3. Discussion of the results

The results of experiment 4 show that there is an effect of ADVERB/MP as well as of CONTRAST. DP subjects are overall less prone to precede the MPs than any sentence adverb, and contrasted DP subjects are more prone to follow an adverb or a MP than new or focused DP subjects. In both these respects, the findings of experiment 3 were repeated. The result that only CONTRAST had an effect on the position of DPs further showed that there was no additive



effect of NEW in combination with FOCUS. However, as in experiment 3, the distribution of contrasted DPs with respect to sentence adverbs was close to random with 48% preceding the sentence adverbs, and 52% following. New or focused DPs were more prone to precede the sentence adverbs than follow them and this once again speaks against the assumptions by Svenonius (2001) and Holmberg (1993) that the position following the sentence adverbs is a focus position. Thus, it shows that information structure does not seem to have a strong effect on the linearisation of the elements in the middle field. Other properties such as the proposed syntactic difference between MPs and sentence adverbs seem to be more important for the linearisation of elements in the middle field.

## 5.6. Summary of the focus/contrast DP experiments

Both experiment 3 and 4 show that there is a significant effect of ADVERB/MP, i.e. that there is a robust difference between the MPs *nog* and *visst* on the one hand and sentence adverbs on the other. This difference in linearisation with respect to DPs is present regardless of the information structural status of the DPs. Thus, the difference between these MPs and sentence adverbs is not only one of interaction with different categories of information structure, but lies somewhere else, possibly in a difference in the position of their base generation, as argued in chapter 4, but possibly also with respect to phonology, which will be discussed in chapter 6.

Turning to the effect of information structure on the position of DPs it showed that information focus (by newness) or identification focus (focus) do not have the expected effect on the position of the DPs in any of the experiments. Thus, the assumption that the position following the adverbs is a focus position can be refuted. The results of experiment 3 and 4 showed that DPs, new and given, focused or not, precede the sentence adverbs to an equal extent, i.e. approximately 60% of all DPs precede sentence adverbs. This was also the same distribution as found in experiment 1 and 2 testing only given vs. new DPs. Only the information structural category CONTRAST had a significant effect on the position of DPs in the middle field. This is also the category to which a prosodic effect has been ascribed, cf. Selkirk (2008).

A possible interpretation for this finding is that DPs in general are prone to precede sentence adverbs, except when they are contrasted. However, it must be noted that the distribution of contrasted DPs with respect to sentence adverbs is close to a random distribution in both experiments.

The result that focus and contrasted DPs show the same distribution with respect to sentence adverbs in both experiments indicate that there was no additive effect of new/given. Never the less, I will refrain from any further statistic analysis of the results of experiment 3 and 4. The reasons for this is that it is unclear to which extend the definition of FOCUS and CONTRAST differ in the two experiments. In the literature there are some differing definitions of contrasts. Kiss (1998) and Repp (2010) argue that contrast is an expression not only of a closed set of alternatives, but comes with the additional meaning of exhaustivity, i.e. in a context with contrast, only one entity in a set of alternatives renders a true proposition. Krifka (2007) makes the same distinction between focus and contrast as relating to an open and closed set, but argues that contrastive focus is not exhaustive, but can be also additive. In experiment 3 contrast was of the exhaustive type, i.e. the proposition only holds for one of the explicitly stated DPs. In experiment 4 the DPs contrast was rather of the additive type. The results, however, show that the effect of contrast was the same in both experiments. Exhaustively contrasted DPs preceded sentence adverbs in 48% of the clauses, and the MPs in 25%. Additively contrasted DPs preceded sentence adverbs in 46% of the clauses, and the MPs in 26%. In other words: contrast, in both definitions, had an similar effect on the position of the DPs. Thus, an exhaustive or additive contrast did not seem to matter to affect the position of the DP.

The same critique, can be applied to the FOCUS conditions, as focus is induced in different ways in the two experiments. In experiment 3 focus was in relation to an open set, i.e of the type *p holds for many X* and in experiment 4 focus was induced by a *Wh*-question, i.e. *Which X*. It is unclear if these distinctions lead to different nuances of focus, but a comparison between the two types of contrast and focus in the two experiments might lead to false conclusions.

Even though there is no difference of these types of focus with respect to their effect on the linearisation of elements in the adverb condition, it must be kept in mind that there might be some distinctions between the types that

give rise to effects unnoticed in these experiments.

Further, it must be noted that there is a difference between the two experiments to which extend MPs are preceded by DPs. Given and focused DPs precede MPs in 41 % of the cases, but only 30% of the new and focused DPs. In the subset MPs, the interaction of given, new and focus is of an unexpected kind, as focus increases the likelihood of DPs to precede the MPs. However, overall the DPs only precede the MPs to a low extend, and it would be too strong to claim that they mark the border between given and new information.

There might be more details to the linearisation of MPs, DPs and sentence adverb as far as information structure in concerned which were not detected in these experiments but these will no be explored any further here. In the next experiments, I will turn to the linearisation of MPs, sentence adverbs and pronouns. The results of these two experiments will indicate that phonology has a role in the ordering of the elements in the middle field.

## 5.7. Experiment 5: *ju*, *väl* and object pronouns

The results of the experiment 1 (with DPs, sentence adverbs and the MPs *ju* and *väl*) presented in section 5.1, show that full subject DPs do not precede the MPs *ju* or *väl*. Based on these results, I argued that it is possible to maintain the hypothesis that these MPs surface in a position above any subject position in the middle field as a result of their syntactic status as a head and their clitization to the finite verb.

The goal of this experiment is to test this hypothesis again, using object pronouns. In the previous chapter it was postulated that monosyllabic pronouns can precede these MPs. The possibility that monosyllabic pronouns also can be analysed as clitics was discussed in chapter 4.5. However, it was left open if this assumption could be extended to bi-syllabic pronouns as well. If the length of a pronoun is relevant for its potential clitic status, then it is expected that only monosyllabic object pronouns are able to intervene between the finite verb and the MPs *ju* and *väl*, but this should not be possible for bi-syllabic pronouns.

This experiment tests two questions: first: can object pronouns precede the MPs *ju* and *väl*? If yes, does the length of the pronoun matter? Second: do all object pronouns necessarily undergo object shift to a position above sentence adverbs, and if yes, does the length of the pronoun affect its ability to shift?

### *Hypothesis*

The MPs *ju* and *väl* are clitics on the finite verb in C° and as a consequence only other clitic elements are able to intervene between the finite verb and the MP.

This experiment will also be used to test the following, additional hypothesis:

### *Additional hypothesis:*

The length of the object pronoun (one or two syllables) influences its possible positions in the clause. Only mono-syllabic pronouns are clitics and can precede the MPs *ju* and *väl*. Further, the length of the object pronouns might affect its ability to undergo object shift into a position preceding sentence adverbs.

### 5.7.1. Method

**Participants** The participants are the same as in experiment 1, i.e. 44 native speakers who participated voluntarily and without payment.

**Materials and design** There were 24 experimental items and the design of the experiment was two factorial with the two factors: LENGTH OF PRONOUN and ADVERB/MP in a Latin square design. The dependent variable word order (ADVERB/MP>Pronoun or Pronoun>ADVERB/MP) was tested for in the target sentences, which contained either a sentence adverb or a MP. The targets had the following structure: a clause initial subject pronoun, a transitive verb in past or present tense, an object pronoun, a MP or an adverb, a clause final locative or temporal adverbial (adverb or PP), cf. (127). The factor LENGTH OF PRONOUN was introduced in the context clause, with one context allowing for a monosyllabic object pronoun and one context allowing for a bisyllabic object pronoun in the target. Half of the objects in the target clause were introduced as subjects in the context clause, the other half as objects. For each length of the object pronouns there are two lexicalizations: *henne/honom* (her/him) for the bisyllabic object pronouns and *mig/oss* (me/us) for the monosyllabic ones, equally distributed. In total 75% of the pronouns were in singular and 25% in plural. The reason for this imbalance is that the bisyllabic object pronouns all are singular. The mono-syllabic pronouns were equally balanced between singular and plural. There were two versions of each target, one version with a MP (*ju* or *väl*, equally distributed) and one with a sentence adverb. Each sentence adverb occurred in only one item, i.e. 24 sentence adverbs were used. The material was distributed onto 4 lists, each of which contained only one condition of each item. On each list there were 30 fillers, of which 24 were items of experiment 1, and 6 control items to test attention throughout the experiment, cf. appendix A.5 for the full set of materials.

(126) **Context**

a. **Monosyllabic condition**

*Varför tycker du inte om hunden?*  
why thinks you not about dog.DEF  
*Why don't you like the dog?*

b. **Bisyllabic condition**

*Varför tycker pojken inte om hunden?*  
 why thinks boy.DEF not about dog.DEF  
*Why doesn't the boy like the dog?*

(127) **Targets: Monosyllabic**

a. **Adverb**

ADV>P *Den bet faktiskt mig i armen.*  
 it bit actually me in arm.DEF  
 PRO.sub V ADV PRO.obj PP

P>ADV *Den bet mig faktiskt i armen.*  
 it bit me actually in arm.DEF  
 PRO.sub V PRO.obj ADV PP

It did actually bite me in the arm.

b. **MP**

MP>P *Den bet ju mig i armen.*  
 it bit JU me in arm.DEF  
 PRO.sub V MP PRO.obj PP

P>MP *Den bet mig ju i armen.*  
 it bit me JU in arm.DEF  
 PRO.sub V PRO.obj MP PP

It did bite me in the arm, as you know.

(128) **Targets: Bisyllabic**

a. **Adverb**

ADV>P *Den bet faktiskt honom i armen.*  
 it bit actually him in arm.DEF  
 PRO.sub V ADV PRO.obj PP

P>ADV *Den bet honom faktiskt i armen.*  
 it bit him actually in arm.DEF  
 PRO.sub V PRO.obj ADV PP

It did actually bite him in the arm.

b. **MP**

MP>P *Den bet ju honom i armen.*  
 it bit JU him in arm.DEF  
 PRO.sub V MP PRO.obj PP

P>MP	<i>Den</i>	<i>bet</i>	<i>honom</i>	<i>ju</i>	<i>i</i>	<i>armen.</i>
	it	bit	him	JU	in	arm.DEF
	PRO.sub	V	PRO.obj	MP	PP	

It did bite him in the arm, as you know.

**Procedure** The method of the experiment is a forced choice test. The experiment was conducted with a web-based questionnaire with a total of 60 items (6 practice items, 24 items, 30 fillers of which 24 items were from experiment 1 and 6 were control questions to test attention). Each item was presented separately, with one of the two context clauses, cf. (126). The two possible target sentences, i.e. either a mono- or bi-syllabic pronoun in combination with a MP or ADV occurring in different word orders, were presented underneath the context sentence and beneath each other. The order of the two targets was randomized. The participants were asked to choose the most naturally sounding alternative.

**Predictions** If the MPs are clitic on the verb, they may only be preceded by other clitic elements, i.e. possibly only by mono-syllabic object pronouns which must then also be analysed as clitics. Bisyllabic object pronouns might not be clitics, and thus, must follow these MPs. Given the additional hypotheses that the length of the pronoun influences its ability to undergo object shift, we might expect to see a difference in position of these pronouns with respect to sentence adverbs as well, i.e. with monosyllabic pronouns preceding adverbs to a greater extent than the bisyllabic pronouns. Such an outcome would also support the assumption that the length of the object pronouns is (at least partially) relevant for their possibility to undergo object shift. (Other triggers of object shift, such as case marking, will be discussed in chapter 6).

### 5.7.2. Results

The mean proportions of choice of the order object pronouns > Adverbs/MPs are given in table 5.13 and shown graphically in figure 5.7.

Condition	mean	sd	data points
ADV- Mono syllabic pronoun	0.781	0.414	256
ADV- Bisyllabic pronoun	0.727	0.447	256
MP- Monosyllabic pronoun	0.352	0.478	256
MP - Bisyllabic pronoun	0.168	0.375	256

Table 5.13: Mean proportions of object pronouns > sentence adverbs or the MPs *ju/väl*

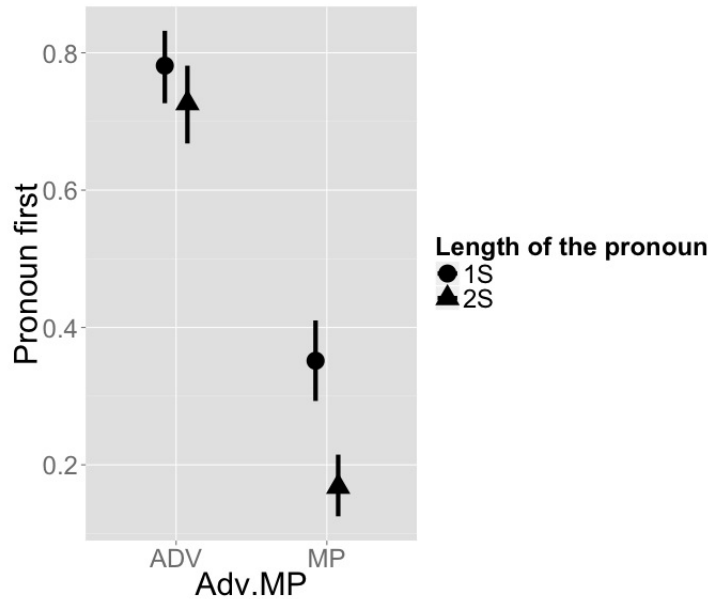


Figure 5.7: Results: Mean proportions and confidence intervals (95%) of object pronouns > sentence adverbs or the MPs *ju/väl*

The analysis of the data was conducted using a general linear mixed-effects model with a binominal logit function and testing models for best fit by AIC. The best model for this experiment included the fixed effects ADVERB/MP, LENGTH OF PRONOUN and their interaction. The random effects are a random intercept for ITEM and a random intercept and slope for PARTICIPANT for the variable ADVERB/MP and a correlation between the intercept and slope. The best model is shown in (129) and the model parameters are given in table (5.14).

- (129) Best model: Answer Adv.MP\*Length of Pronoun + (1+Adv.MP |Participant) + (1 |Item)



	Estimate	Std. Error	z-value	p-value
(Intercept)	-0.067	0.247	-0.272	> 0.1
Adv/MP	1.564	0.135	11.611	< 0.001
Length of Pronoun	0.437	0.0886	4.935	< 0.001
Adv/MP*Length of Pronoun	-0.234	0.0891	-2.626	< 0.01

Table 5.14: Model parameters for experiment 5

	(Intr)	Adv.MP1	Length of pronoun
Adv.MP	-0.137		
Length of pronoun	-0.050	0.176	
Adv.MP*Length of pronoun	0.090	-0.092	-0.074

Table 5.15: Correlation of fixed effects for experiment 5

The statistical analysis revealed a main effect of ADVERB/MP, ( $p < 0.001$ ), a significant effect of the LENGTH OF THE OBJECT PRONOUN, ( $p < 0.001$ ) as well as an interaction between the two, ( $p < 0.01$ ). The interaction was resolved by the factor ADVERB/MP. For the MP subset, LENGTH OF THE PRONOUN had a highly significant effect, (estimate= -1.3573, se= 0.2630,  $z = -5.160$ ,  $p < 0.001$ ). In the ADVERB subset LENGTH OF THE PRONOUN had a marginal effect, (estimate= -0.4193, se= 0.2371,  $z = -1.768$ ,  $p > 0.05$ ). A post hoc analysis shows that the position of the object pronoun does not differ with respect to the MPs *ju* or *väl*, (estimate= 0.039, se= 0.130  $z = 0.297$   $p > 0.1$ ).

### 5.7.3. Discussion of the results

The results show that pronouns are more prone to precede sentence adverbs than MPs. Further, it shows that the length of the pronoun does influence its position in relation to the MPs. Monosyllabic pronouns precede the MPs in 35% of the cases, but only in 17% of the cases in the bisyllabic condition. This result could be seen as an argument in favour of an analysis of mono- and bisyllabic pronouns as clitics to a certain extent, i.e. when they precede the MPs. However, a clitic status of any of the pronouns cannot account for the fact that the majority of the pronouns follow the MPs, (without assuming clitic and weak homonymic versions). I will return to this in chapter 6, in which I argue that the linearisation of MPs and pronouns is determined not only by syntax

but also by phonological properties. For now, it is important to note that object pronouns precede the MPs less frequently than they precede adverbs. The results show that object pronouns precede sentence adverb in more than 70 % of the cases (78% for mono- and 73% for bisyllabic object pronouns). The LENGTH OF THE PRONOUN is not a significant factor, although there is a marginal effect. Thus, it seems that object shift above a sentence adverb is not influenced by the length of the pronouns. This is also in line with literature on object shift, as it is expected that all unstressed pronouns precede the sentence adverb. However, the results also show that not all object pronouns must undergo object shift. In chapter 6, I will present a detailed a discussion of object shift and offer an analysis thereof that takes the results of this experiment into account.

## 5.8. Experiment 6: *nog*, *visst* and object pronouns

The results from experiment 2 (DPs and sentence adverbs and the MPs *nog* and *visst*), cf. section 5.2, showed that these MPs are less frequently preceded by DPs than sentence adverbs are. In this experiment I will test if there is a similar difference between MPs and sentence adverbs with respect to object pronouns and if the length of the pronoun (mono- or bisyllabic object pronouns) affects its position with respect to sentence adverbs and the MPs *nog* and *visst*.

*The hypothesis:*

The MPs *nog* and *visst* occur in a position higher in the clause than the sentence adverbs, but not as high as the MPs *ju* and *väl*. As a result thereof, object pronouns will precede the MPs *nog* and *visst* less often than they precede sentence adverbs, but more often than *ju* and *väl* are preceded by pronouns. Additionally, if these MPs are not syntactic head that appear as clitics on the finite verb, but phrasal elements, both mono- and bi-syllabic pronouns must be able to precede the MPs.

*Additional hypothesis:*

The length of the object pronoun (one or two syllables) influences its possible positions in the clause, i.e. object shift is related to the length of the object pronouns.

### 5.8.1. Method

The material and the method were the same as in experiment 5 (object pronouns, *ju/väl* and sentence adverbs), cf. section 5.7. The only change was a replacement of the particles *ju* and *väl* by *nog* and *visst* in the MP-condition, as demonstrated in (131b) and (132b). The participants were the same as in experiment 2 (DPs, *nog/visst* and sentence adverbs), i.e. 52 native speakers of Swedish between the age of 20 to 76, who all participated voluntarily. 28 of the participant were rewarded for participation, 24 were not paid. Payment was introduced to motivate more participants.

There were 24 experimental items and the design of the experiment was two factorial with the two factors: LENGTH OF PRONOUN and ADVERB/MP in a Latin square design. The dependent variable *word order* (ADVERB/MP > Pronoun or Pronoun > ADVERB/MP) was tested for in the target sentences, which contained either a sentence adverb or a MP. The targets had the following structure: a clause initial subject pronoun, a transitive verb in past or present tense, an object pronoun, a MP or an adverb, a clause final locative or temporal adverbial (adverb or prepositional phrase), cf. (131). There are two contexts for each item; one introducing an entity which can be referred to by a monosyllabic object pronoun and one with a possible bisyllabic object pronoun in the target, as shown in (130a and b). Half of the objects in the target clause were introduced as subjects in the context clause, the other half as objects. For each type of object pronouns there are two lexicalisations: *henne/honom* (*her/him*) for the bisyllabic object pronouns and *mig/oss* (*me/us*) for the monosyllabic ones (with an equally balanced distribution). 75% of the pronouns were in singular and 25% in plural. The reason for this imbalance is that the bisyllabic object pronouns all are singular. The mono-syllabic pronouns were equally balanced between singular and plural. There were two versions of each item, one version with a MP (*nog* or *visst*, balanced distribution) and one with a sentence adverb. Each sentence adverb only occurred in only one item, i.e. 24 sentence adverbs were used. The material was distributed onto 4 lists, each of which contained only one condition of each item. On each list there were 30 fillers, of which 24 were items of experiment 2, and 6 control items to test attention throughout the experiment, cf. appendix A.6 for the full set of materials.

(130) **Context**

a. **Monosyllabic condition**

*Varför visste Lars att ni inte är i skolan?*  
 why knew Lars that you not are in school.DEF  
 Why did Lars know that you weren't at school?

b. **Bisyllabic condition**

*Varför visste Lars att Lisa inte är i skolan?*  
 why knew Lars that Lisa not are in school.DEF  
 Why did Lars know that Lisa wasn't at school?

(131) **Targets: Monosyllabic**

a. **Adverb**

ADV>P *Han mötte säkerligen oss på stan.*  
 he met surely us on town.DEF  
 PRO.SUB V ADV PRO.OBJ PP

P>ADV *Han mötte oss säkerligen på stan.*  
 he met us surely on town.DEF  
 PRO.SUB V PRO.OBJ ADV PP

He probably met us in town.

b. **MP**

MP>P *Han mötte visst oss på stan.*  
 he met VISST us on town.DEF  
 PRO.SUB V MP PRO.OBJ PP

P>MP *Han mötte oss visst på stan.*  
 he met us VISST on town.DEF  
 PRO.SUB V PRO.OBJ MP PP

He met us in town.

(132) **Targets: Bisyllabic**

a. **Adverb**

ADV>P *Han mötte säkerligen henne på stan.*  
 he met surely her on town.DEF  
 PRO.SUB V ADV PRO.OBJ PP

P>ADV *Han mötte henne säkerligen på stan.*  
 he met her surely on town.DEF  
 PRO.SUB V PRO.OBJ ADV PP

He probably met her in town.

b. **MP**

MP>P *Han mötte visst henne på stan.*  
 he met VISST her on town.DEF  
 PRO.SUB V MP PRO.OBJ PP

P>MP *Han mötte henne visst på stan.*  
 he met her VISST on town.DEF  
 PRO.SUB V PRO.OBJ MP PP

He met her in town, it seems.

**Predictions** The results of experiment 5 showed that the position of the object pronoun is not influenced by its length in the adverb condition. The frequency of object pronouns preceding sentence adverbs is expected to be similar to the results in experiment 5. The length of the object pronoun might have an effect in the MP condition, i.e. it is more likely that a monosyllabic object pronoun than a bi-syllabic one precedes the MPs. Overall, the object pronouns will be less likely to precede the MPs than the sentence adverbs.

### 5.8.2. Results

The mean proportions of choice of the order object pronouns > ADVERBS/MPs are given in table 5.16 and shown graphically in figure 5.8.

Condition	mean	sd	datapoints
ADV - monosyllabic pronoun	0.705	0.457	312
ADV - bisyllabic pronoun	0.609	0.489	312
MP - monosyllabic pronoun	0.631	0.483	312
MP - bisyllabic pronoun	0.462	0.499	312

Table 5.16: Mean proportions of pronouns > sentence adverbs or the MPs  
*nog/visst*

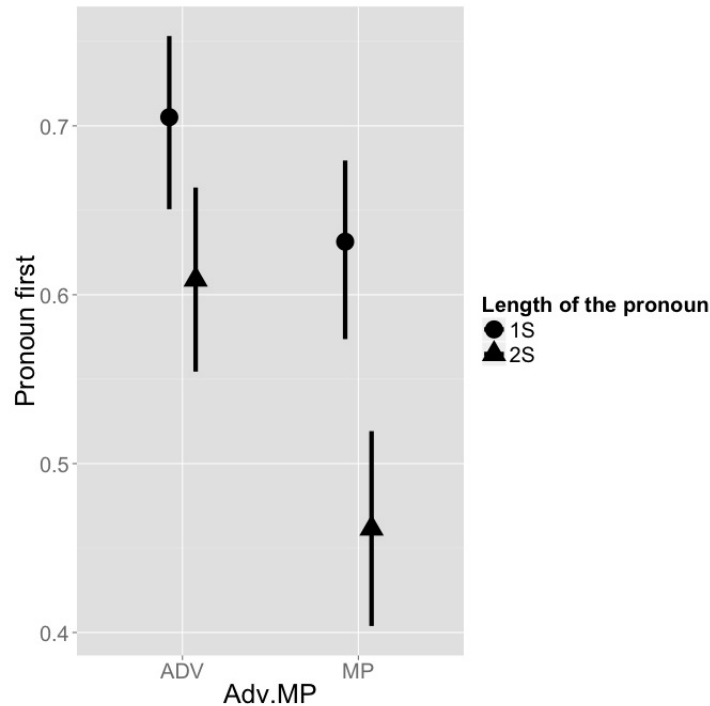


Figure 5.8: Results: Mean proportions and confidence intervals (95%) of object pronouns > sentence adverbs or the MPs *nog/visst*

The analysis of the data was conducted using a general linear mixed-effects model and testing models for best fit by AIC. The best model for this experiment includes the fixed effects ADVERB/MP and LENGTH OF PRONOUN. The random effects are a random intercept for ITEM for the variable ADVERB/MP and a random intercept and slope for PARTICIPANT for the variable ADVERB/MP and a correlation between the intercept and slope. Both ADVERB/MP and LENGTH OF PRONOUN show significant effects,  $p < 0.001$  for both factors. The best model is shown in (133) and the model parameters given in table (5.17).

(133) Best model: Answer  $\sim$  Adv.MP+Length of Pronoun+  
(1+Adv.MP|Participant)+(1|Item)

The LENGTH OF PRONOUN is a significant factor in the subset sentence adverbs,  $p < 0.01$ . (0.0024), as well as in the subset MPs,  $p < 0.001$ . A post hoc analysis of the subset of MPs further showed that the type of the MP is not a significant factor,  $p > 0.05$  (0.58).

	Estimate	Std. Error	z value	p value
(Intercept)	0.635	0.217	2.930	< 0.01
Adv.MP	0.332	0.090	3.674	< 0.001
Length of pronoun	0.383	0.069	5.588	< 0.001

Table 5.17: Model parameters for experiment 6

	(Intr)	Adv.MP1
Adv.MP1	0.157	
Length of pronouns	0.031	0.039

Table 5.18: Correlation of fixed effects for experiment 6

### 5.8.3. Discussion of the results

The results for this experiment show that, overall, object pronouns are more likely to precede sentence adverbs than the MPs *nog* and *visst*. The difference in position of the object pronouns with respect to MPs and sentence adverbs allows for the conclusion that the MPs and sentence adverbs surface in different positions in the middle field. The MPs are in a high position, above which object shift does not happen as frequently as into a position above the sentence adverbs.

The LENGTH OF THE PRONOUN was a significant factor in both conditions, i.e. with the MPs and the sentence adverbs. This is unexpected for the adverb condition, as the length of the pronoun was only marginally significant in experiment 5 using the very same data, but see next section for post hoc analyses of the two experiments and discussions of the results. It is expected that the length of the pronoun is a significant factor in the condition with MPs, as I argued that MPs occur in a higher position in the middle field, and the ability to undergo object shift is related to the length of the pronoun, see chapter 6 for a detailed discussion of this. Further, the result that bi-syllabic pronouns precede these MPs to a greater extent than the MPs *ju* and *väl* is compatible with the syntactic analysis of these MPs as phrasal elements, i.e. it is expected that not only (possibly clitic) monosyllabic pronouns can precede these MPs, but also bi-syllabic pronouns.



## 5.9. Summary of the pronoun experiments

Analysing the data from the two experiments with object pronouns, i.e. experiment 5 and 6, it is possible to directly compare the two types of MPs, i.e. to see if there is a difference between the two types of MPs with respect to their linearisation with object pronouns. It also allows us to see how the subset with adverbs fare with respect to the length of the pronoun, as the results from the two experiments differed, i.e. the length of the pronoun has a only a marginally significant effect in experiment 5, but a significant effect in experiment 6. The results are presented graphically in figure 5.9.

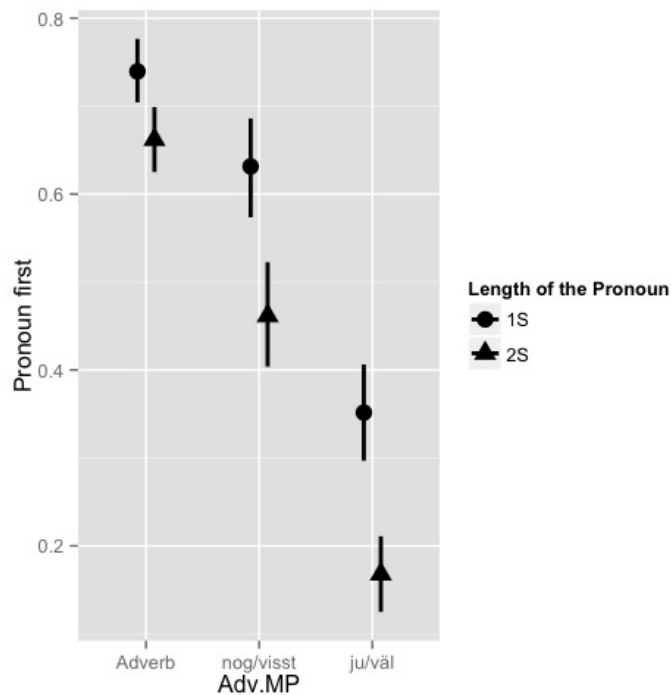


Figure 5.9: Results: Mean Proportions and confidence intervals (95%) of mono- and bisyllabic object pronouns > sentence adverbs or the MPs

A post hoc analysis of the two experiments reveals a significant effect of ADVERB/MP,  $p < 0.001$ , and a significant effect of LENGTH OF PRONOUN,  $p < 0.001$ . There is a significant interaction between the two factors.

(134) Best model: Answer  $\sim$  Adv.MP\*Length of Pronoun+  
(1|Item)+ (1|Participant)

Further analysis show that there is a significant effect of the length of the pronouns also in the subset containing only adverbs,  $p < 0.05$ .

Thus, it seems that the length of the pronoun influences its position in the clause with respect to MPs as well as sentence adverbs. Overall 66% of the bi-syllabic pronouns and 74% of the mono-syllabic pronouns precede the sentence adverbs. The MPs are preceded by pronouns less frequently than the sentence adverbs. For the MPs the numbers are: 63% of the mono- and 46% of the bi-syllabic object pronouns precede *nog* and *visst*, whereas 35% of the mono- and 17% of the bi-syllabic object pronouns precede *ju* and *väl*.

These results show that it is possible to maintain the hypothesis that there are two types of modal particles and that both these types differ from sentence adverbs. The MPs *ju* and *väl*, claimed to be clitics on the finite verb, are preceded by preferably mono-syllabic object pronouns. As expected, the MPs *nog* and *visst*, occurring as phrasal elements in a sentence medial position, can be preceded by object pronouns, both mono- and bi-syllabic, to a greater extent than *ju* and *väl*. The sentence adverbs are frequently preceded by object pronouns as a result of their low position in the middle field. These results are expected given the assumption that the MPs and occur in different high positions in the middle field, above and sentence adverb. However, the most interesting result of the post hoc analysis is that the LENGTH OF THE PRONOUN effects the position of the object pronoun with respect to the different MPs (*ju/väl* vs. *nog/visst*) as well as with respect to the sentence adverbs. This last observation is unexpected given the assumption that all unstressed pronouns must undergo object shift above sentence adverbs, and this will be discussed in detail in chapter 6.

## 5.10. Summary of the chapter

The results of the experiments presented in this chapter support the hypothesis that there are two types of MPs, *nog* and *visst* on the one hand and MPs *ju* and *väl* on the other, and that none of these types are to be analysed as sentence adverbs. There is a clear distinction between the positions of the MPs and the adverbs with respect to subject DPs in the middle field as well as in relation to mono- and bisyllabic pronouns. The results support the analysis of the MPs *ju* and *väl* as clitics that adjoin to the finite verb in C°. They are rarely preceded by any DP, < 8%, by less than 20% of the bi-syllabic pronouns, but by 35% of the mono-syllabic pronouns. The clitic-hypothesis can be maintained, with the additional hypothesis that mono-syllabic pronouns sometimes/for some speakers behave as clitics as well. However, the syntactic approach to the different types of MPs does not shed much light on the data with *nog* and *visst*. In experiment 2 and 6 it was shown that full DPs subjects as well as mono- and bisyllabic object pronouns precede these MPs, but always to a lesser extent than they precede adverbs. Experiment 3 and 4 also showed that any possible effects of information structure cannot account for the difference between these MPs and sentence adverbs. Assuming that both these MPs and adverbs are full phrases (as done in chapter 4.3), does not give us any means to explain these results, except to stipulate that the MPs occur in a higher position in the IP-domain.

However, taking phonological properties of the MPs into account, the possible positions of subject DPs and object pronouns in the middle field might be linked to various phonological aspects. Recall the long-standing observation that stress of the object pronoun effects its position with respect to sentence adverbs, cf. among others Hellan and Platzack (1999). Unstressed pronouns and DPs can precede the adverbs, stressed ones follow the adverbs. The results gained in the experiments above might simply give us a more fine tuned picture of this observation: Not only stress but also the length of an element effects its position. In experiment 5 and 6, I showed that the length of an object pronoun has an effect on its position in the clause, even though they are all assumed to be unstressed (the contexts all triggered VP focus in the target, i.e. a reading with a narrow focus on the pronouns can be excluded)

The results indicate that phonologically less prominent, i.e. short and un-

stressed elements, move to position(s) in the far left of the middle field. Bisyllabic object pronouns, by nature of having two syllables, are more prominent than the mono-syllabic pronouns, and thus the bisyllabic pronouns cannot move as high in the middle field as the mono-syllabic ones. Highly de-stressed elements, such as the MPs *ju* and *väl* and mono-syllabic pronouns (short syllables) move as far left, i.e. as close to the finite verb in second position, as possible, (hence appearing as clitics). The MPs *nog* and *visst* carry word stress (by means of long syllables), see chapter 4.3, and are thus prosodically more prominent than *ju* and *väl*. As a consequence, they do not move as far left as *ju* and *väl*, but unstressed pronouns (also bi-syllabic ones) and full subject DPs can precede these MPs.

The assumption that stress is one of the feature that effects to position of the elements in the middle field was also present to some extent in experiment 3 and 4. Contrast is the only category of information structure which is argued to be marked prosodically by stress, cf. Selkirk (2008). The results of the experiments showed that only explicit contrast had an effect on the position of the DPs in relation to the MPs *nog* and *visst* and sentence adverbs. Thus, it is possible to assume that the effect of contrast also could be linked to prosody. This would also be in line with the observation that the position after the sentence adverb is a position of phonological prominence.

The results of the experiments also showed that there is a certain amount of variability with respect to the position of the pronouns and DPs in relation to MPs as well as adverbs. This variability is difficult to analyse in a purely syntactic account.

In order to account for the variability of linearisation with respect to pronouns, one needs not only to analyse the position of the MPs and adverbs, but also need to take a closer look at the movement of the pronouns, i.e. at object shift.

Object shift is sometimes claimed to be a optional operation in Swedish (Josefsson, 2012), very much dependent on the phonological properties of the pronoun. In the literature, the phonological property most frequently referred to is stress, but the results of the experiments 5 and 6 show that it is also linked to the length of the pronoun. Further, the movement of pronouns and MPs have one thing in common: they are dependent on verb movement, i.e. there seem to be phonological as well as syntactic properties involved in

these movements. In the following chapter I will discuss in how far phonology can be used to account for some of the findings in these experiments, and in general how phonology influences the linearisation of DPs, pronouns, MPs and sentence adverbs in matrix clauses.



## 6. A phonological analysis of the linearisation of the middle field

In chapter 4, I presented a syntactic analysis of MPs as phrasal and clitic elements, which accounts for the occurrence of the MPs in a sentence initial and medial position as well as for the linearisation of MPs and DPs in the middle field of matrix clauses and in subordinate clauses. I proposed that the MPs are base generated in functional projections in the left part of the IP-domain. I argued that the MPs *ju* and *väl* occur as syntactic heads in two distinct phrases, i.e. in the heads of these phrases. As a consequence of this syntactic status they are banned from the sentence initial position and must occur adjacent to the finite verb in verb-second clauses, i.e. they head adjoin to the finite verb and occur as clitics on the finite verb. The MPs *nog* and *visst* occur in a specifier position of a functional projection below the MPs *ju* and *väl*. They are phrasal elements, evident by their ability to appear in the sentence initial position as well as in the middle field. Further, they do not necessarily need to appear adjacent to the verb, but other phrasal elements, e.g. DP subjects, can intervene between the verb and these MPs. The implications of these theoretical assumptions were tested in a set of experiments investigating the linearisation of MPs and DPs in the middle field of matrix clauses. The results show that the MPs *ju* and *väl* are very rarely preceded by DPs (less than 8%), i.e. these MPs do appear as clitics on finite verbs. The MPs *nog* and *visst* were overall preceded by DPs to a greater extent than *ju* and *väl*, i.e. values ranging from 25-42% of the cases, but this linearisation is even more frequently with sentence adverbs, which are preceded by DPs in 46% to 66% of the tested clauses (highest and lowest values of all the experiments testing co-occurrence of DPs and the MPs *nog* and *visst*). So far the predictions of the syntactic theory hold, i.e. the syntactic analysis of the MPs as heads and phrases can be maintained, as well as the assumption that the

MPs *nog* and *visst* differ from sentence adverbs by being base generated in a higher projection in the middle field.

Further experiments inspected the linearisation between MPs and object pronouns. The results showed that *ju* and *väl* are preceded by monosyllabic object pronouns as well as by bisyllabic pronouns, by the former more frequently than by the latter, i.e. by 35% of the monosyllabic and 17% of the bisyllabic pronouns. The MPs *nog* and *visst* are preceded by both types of pronouns to a greater extent than *ju* and *väl* are, but monosyllabic pronouns also precede these MPs to a greater extent than the bisyllabic pronouns, i.e. values are 63% for the monosyllabic and 46% for the bisyllabic pronouns. For sentence adverbs the mean values, i.e. combined results from experiment 2 and 4, show that 74% of the monosyllabic pronouns and 66% of the bisyllabic pronouns precede the sentence adverbs. The different results between the MPs and sentence adverbs overall are notable and support the syntactic analysis, i.e. the MPs *ju* and *väl* are clitics and can thus only be preceded by other clitic elements. The MPs *nog* and *visst* are phrasal, and thus can be preceded by pronouns of all types. However, there is no way to distinguish between these MPs and sentence adverbs based on their phrasal status, even though the results from the experiments show that it is necessary to do so. On a syntactic level, these MPs only differ from sentence adverbs by their assumed higher position in the IP-domain compared to sentence adverb. Further, the effect of the length of a pronoun on its position in the middle field needs to be accounted for, and in this chapter I will discuss the question whether it should be done using a syntactic or a phonological analysis.

Maintaining the syntactic analysis of MPs analysis, in particularly of the MPs *ju* and *väl* as clitic elements, has consequences for the analysis of pronouns. In order to offer a syntactic analysis of the pronouns that occur between the MPs *ju* and *väl* and the finite verb, one would have to claim that the intervening pronouns are also clitic<sup>1</sup>. However, such an assumption is problematic for the following reason: A strictly syntactic analysis of the pronouns as clitics would imply that they must move with the finite verb in matrix clauses and as a result always precede all the MPs, and there should be no room for deviation. The results from the experiments, however, show that the

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<sup>1</sup>This claim is made by Grosz (2005) about (monosyllabic) pronouns in Viennese German which precede the clitic MP (‘*n*), clitic of *denn*.



linearisation of a pronoun preceding a MP or a sentence adverb is only optional and this is in fact the less preferred linearisation for the MPs. In order to account for the variation in linearisation one would have to make additional stipulations. This could be achieved by postulating that the pronouns are only sometimes analysed as clitics that undergo an obligatory movement, whereas they as phrasal elements other times, which may not intervene between the MPs *ju* and *väl* and the finite verb. This variation could also be ascribed to the status of the MPs, i.e. that the MPs *ju* and *väl* only sometimes are clitic and undergo movement, other times phrasal elements, which do not move, and as a result can be preceded by all types of pronouns. However, the latter assumption cannot account for the impossibility for DPs to precede the MPs *ju* and *väl* in matrix clauses, nor for their restriction to the middle field. None of these options are appealing, since it is unclear which mechanisms would decide which status the pronoun or MP should have at any given occurrence.

A second possibility to account for this optionality is to take a closer look at the phonological properties of the MPs and pronouns. A first indication that phonology plays a role in the linearisation of the middle field comes from the positioning of pronouns with respect to adverbs, i.e. stressed pronouns must follow sentence adverbs, whereas unstressed pronouns may precede these, cf. Holmberg (1991), Josefsson (1992), Hellan and Platzack (1999) among others. The effect of stress is present with subject as well as object pronouns (for the latter described as *object shift*). In this chapter I will consider the possibility that the linearisation of the middle field, e.g. also of pronouns, is (partially) governed by phonological properties. Further, in order to account for the findings of my experiments, I will discuss how object shift of pronouns and the properties of MPs interact. In the last part of this chapter, I will discuss in how far the properties of the MPs are related to their syntactic or phonological features.

## 6.1. Properties of pronouns

It is commonly assumed that there are two types of pronouns in Swedish, weak and strong ones, cf. among others Teleman et al. (1999), Egerland (1996), Hellan and Platzack (1999), Platzack (2001). The distinction between strong and weak pronouns lies in their phonological properties, i.e. between stressed and

unstressed pronouns. There are lexically distinct forms of clitic pronouns for the third person object pronouns, but these are rarely discussed in the literature (as they only occur in spoken language), cf. Hellan and Platzack (1999, 124) or Platzack (2001, 92). The three types of pronouns are reminiscent of Cardinaletti and Starke's analysis of strong, weak and clitic pronouns, which are claimed to also display structural differences, cf. Cardinaletti and Starke (1994)<sup>2</sup>. However, in the literature on Swedish, no reference is usually made to the syntactic status of weak and strong pronouns. In the following, a discussion of pronouns will show that weak and strong pronouns do not show the syntactic differences that would be expected, given differing syntactic statuses. I will assume that the weak and strong pronouns indeed only differ in their phonological properties and that these differences are not present on the level of syntax<sup>3</sup>. The most noteworthy argument against a syntactic analysis of weak and strong pronouns is posed by the difficulties to account for word order variations if syntactic differences between the two types are postulated. It must however be noted that the discussion will focus on strong and weak pronouns, and clitic pronouns will only be discussed briefly, (for the latter type, a distinct syntactic analysis will be necessary).

### 6.1.1. Properties of subject pronouns

Strong and weak subject pronouns can be distinguished by their phonological properties, i.e. by stress. This property is also claimed to determine where in the clause the pronouns occur. Hellan and Platzack (1999) postulate two distinct positions in the middle field in relation to sentence adverbs. Unstressed (weak) pronouns must precede and stressed (strong) pronouns must follow any sentence adverb. This is demonstrated in example (135)<sup>4</sup>, with the negation as a sentence adverb.

- (135) a. *Igår kom hon/(\*HON) inte.*  
Yesterday came she not  
*She didn't come yesterday.*
- b. *Igår kom inte HON/(\*hon).*  
Yesterday came not she

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<sup>2</sup>This is the same type of structural deficiency which was discussed in 3.2.2

<sup>3</sup>Recall that it is problematic to argue in favour of MPs as syntactically deficient elements of the weak type in Swedish

<sup>4</sup>Capital letters indicate stress, i.e. strong pronouns

The usage of the stress in the examples above are rarely discussed, but Bruce (2012) points out that a stressed pronoun, as in (135b), only has a gestural deictic usage, i.e. the stressed pronoun needs a physical context to receive an interpretation. Only unstressed pronouns can be used anaphorically. The observation seems to hold, but I also assume that the stress on the pronoun is an instance of contrast, i.e. (135b) is also licit in a context such as following a question: *Who was missing from the meeting yesterday, Peter or Mary?* Thus, not only deictic usage, in the sense of a physical pointing, might be possible with stressed pronouns, but pronouns can be stressed for other reasons, i.e. as an expression of explicit contrast. Independent on the usage of the stress in example (135b) it is important to note that the type of stress under discussion here is sentence stress and not word stress.

Data with expletive pronouns are often given as further support for the assumption that the phonological properties of the pronouns determine their position. Expletive pronouns are, according to Engdahl et al. (2004, 55), always unstressed, i.e. cannot receive sentence stress, and always occur to the left of any sentence adverbs, cf. (136).

- (136) a. *Här regnar det/\*DET aldrig.*  
           here rains it               never  
           Here it never rains.
- b. *Här regnar aldrig \*det/\*DET.*  
           here rains never it

Given the data above, it seems as if pronouns which can carry the main sentence stress, given an appropriate context, are not be able to precede a sentence adverb in the middle field, whereas weak pronouns must precede the adverb. However, it must be noted at this point that the main stress of a sentence in Swedish usually falls on the last constituent of the sentence, cf. Bruce (2012). Thus, the stress of the pronoun in the cases above might not be a property which is inherent to the pronouns, but rather the stress of pronouns following adverbs might be due to sentence stress on the last constituent. This will be discussed in detail in the next section.

Further, it is important to note that both stressed and unstressed pronouns can occur sentence initially, i.e. pronouns with or without sentence stress,

cf. (137a). These two positions are also available for expletives, cf. (137b).

- (137) a. *HON/Hon kom inte till mötet.*  
           she           came not to meeting.DEF  
           She didn't come to the meeting.
- b. *Det regnar aldrig här.*  
           it rains never here  
           It never rains here.

The fact that unstressed pronouns can occur in a sentence initial position is not unexpected, as Myrberg and Riad (2015), Bruce (2012, 142) and Erteschik-Shir and Josefsson (2017) argue that an unstressed sentence initial pronoun, as in (137), can be incorporated phonologically into the following lexical word. Incorporation is only possible for unstressed words which do not form an independent phonological word. An example of an incorporated subject pronoun in the initial position is given in (138), from Erteschik-Shir and Josefsson (2017, 102).

- (138) a. *Jag såg hönor.*  
           [ja'so:]  
           I saw chickens.

### Syntactically different statuses?

The examples in (135) and (137) show that the property of stress is only relevant for the positioning of pronouns with respect to sentence adverbs in the middle field, but that stress does not affect a pronouns ability to occur in a sentence initial position. This ability is also an indication that unstressed pronouns are not syntactically reduced, as they other wise would be banned from the sentence initial position, which is reserved for phrasal elements. In order to strengthen the assumption that the phonological property of stress, and not any structural deficiency, is the determining factor for the position of the pronouns with respect to sentence adverbs in the middle field, I will briefly review an additional argument used in favour for an analysis of weak and strong pronouns as structurally distinct pronouns.

In Cardinaletti and Starke's 1994 analysis of strong and weak pronouns it is stated that only strong pronouns can be coordinated or modified as a consequence of their syntactic status as full phrasal elements. If a stressed pronoun

is the same as a (structurally) strong pronoun, it should only be possible to coordinate or modify pronouns when they are in a position following a sentence adverb, as in (139). Pronouns preceding the adverbs, i.e. unstressed pronouns, should necessarily also be structurally deficient, and as a result coordination or modification should not be possible when the pronoun precedes a sentence adverb, cf. (139 b and d).

- (139) a. *Igår kom inte hon/HON med den röda klänningen.*  
 Yesterday came not she with the red dress.DEF  
 Yesterday she with the red dress came
- b. ? *Igår kom hon/HON med den röda klänningen inte.*  
 Yesterday came she with the red dress.DEF not
- c. *Igår kom inte hon/HON och han/HAN.*  
 Yesterday came not she and he  
 Yesterday she and he didn't come.
- d. ? *Igår kom hon/HON och han/HAN inte.*  
 Yesterday came she and he not

However, example (139 a and c) show that stress on the pronoun is possible but not necessary for a modified or coordinated pronoun following the sentence adverb. Stress is, however, not possible on a pronoun preceding the adverb. Further, Egerland (1996) claims that modified pronouns can precede sentence adverbs, cf. (140).

- (140) a. *Igår kom inte hon/HON med den röda klänningen till festen.*  
 Yesterday came not she with the red dress.DEF to party.DEF
- b. *Igår kom hon/?HON med den röda klänningen inte till festen.*  
 Yesterday came she with the red dress.DEF not to party.DEF
- c. *Igår kom inte hon/HON och han/HAN till festen.*  
 Yesterday came not she and he to party.DEF
- d. *Igår kom hon/?HON och han/?HAN inte till*  
 Yesterday came she and he not to

*festen.*  
party.DEF

Egerland (1996) concludes that a subject pronouns preceding the adverb can be either structurally weak or strong, as it can be coordinated and modified but need not be stressed. However, these data could also be interpreted differently. The tests with coordination and modification rather show that the stress of the pronouns is not related to any special syntactic status, but that the stress of the pronoun is dependent on its position. Unstressed pronouns can be coordinated and modified but sentence stress is only possible for a pronoun following the adverb. Further, the examples in (140) show that sentence stress is not even necessary on the pronouns following adverbs. It must be noted that the difference between the two examples is that in (139), there is no constituent after the adverb. The lack or presence of a sentence final constituent, such as a PP, affects the judgement of the sentence. If a clause final PP is present (with sentence final stress), modified or coordinated pronouns can precede the sentence adverb, as in (140). Thus, adding a constituent to the sentence also affects the prosody of the sentence. The contrast in judgement between (135) and (139) can be accounted for once the entire structure and prosodic pattern of the clause is taken into considerations.

Based on these observations, I argue that it is not plausible to assume any structural differences between these pronouns, as they only differ in their phonological properties but not with respect to modification and coordination. Further, Hellan and Platzack (1999) offer additional support for the assumption that weak pronouns are not structurally deficient: Cardinaletti and Starke (1994) claim that deficient pronouns must not occur in the same position as the DPs, not in their base position, and not in a peripheral position. However, these positional restrictions do not hold in Swedish. Recall that DP subjects occur in a sentence initial position, as well as preceding and following sentence adverbs in the middle field in matrix clauses, cf. chapter 5. As demonstrated by the examples in this section, the same positions are available for strong as well as weak subject pronouns.

A potentially different structural status of pronouns thus does not seem to be relevant for their positioning in the middle field. Instead, there is a strong correlation between position and stress of the pronoun and the structure of the sentence, as demonstrated in the examples above. A stressed pronoun

must follow the sentence adverb, but it does not need to be stressed, as long as some material follows the pronoun.

### 6.1.2. Properties of object pronouns and object shift

There are weak and strong forms of object pronouns and the two types are distinguished by the same criteria as the subject pronouns, i.e. stress. In spoken language there are also clitic forms for 3rd person pronouns, i.e. *'na* is the clitic form of *henne* (3p.Sing.Fem), and *'en* the clitic of *honom* (3p.Sing.Masc), cf. Hellan and Platzack (1999). As with the subject pronouns, it is claimed that the phonological properties of an object pronoun affects its position in the clause. Only unstressed, i.e. weak, pronouns can move in the middle field, to a position preceding all sentence adverbs, cf. (141a), or occurring between two sentence adverbs, cf. (141b). Such a movement is not possible for strong, i.e. stressed, pronouns, cf. (141c) Holmberg (1986, 1991) and Hellan and Platzack (1999), nor for full DP objects, cf. (141d).

- (141) a. *Maria gav honom antagligen boken igår.*  
 Mary.SUBJ gave him probably book.DEF yesterday
- b. *Maria gav alltså honom antagligen boken igår.*  
 Mary.SUBJ gave thus him probably book.DEF yesterday
- c. *Maria gav ⟨\*HONOM⟩ alltså ⟨\*HONOM⟩ antagligen*  
 Mary.SUBJ gave him thus him probably  
*⟨HONOM⟩ boken igår.*  
 him book.DEF yesterday
- d. *Maria gav ⟨\*pojken⟩ alltså ⟨\*pojken⟩ antagligen ⟨pojken⟩*  
 Mary.SUBJ gave him thus him probably him  
*boken igår.*  
 book.DEF yesterday  
 Mary probably gave him the book yesterday.

The movement of the weak pronouns is sometimes claimed to be obligatory, cf. Chomsky (1995) and Holmberg (1991), but it is also argued to be optional, cf. Hellan and Platzack (1999) and Josefsson (2012), who claim that weak object pronouns also can occur in situ. The same distinction seems to hold for object pronouns as with the subject pronouns discussed above. If the pronoun is the last element of the clause, it must be stressed, i.e. strong, and

the stressed pronoun may not precede the adverb, cf. (142a and b). However, if there is some material following the pronoun, it is not necessarily stressed even though it occurs following the adverb, i.e. the weak pronoun may remain in situ, cf. (142c).

- (142) a. *Maria såg ⟨\*HONOM⟩ antagligen ⟨HONOM⟩.*  
Mary.SUBJ saw him probably him
- b. *Maria såg ⟨honom⟩ antagligen ⟨\*honom⟩.*  
Mary.SUBJ saw him probably him
- c. *Maria såg ⟨honom⟩ antagligen ⟨honom⟩ igår.*  
Mary.SUBJ saw him probably him yesterday  
Mary probably saw him yesterday.

Thus, the same pattern seems to hold for object pronouns. If they are the last constituent in the clause, i.e. also follow any adverb, they will be stressed but if there is some other sentence final constituent, the pronoun does not need to be stressed. A pronoun preceding the adverb, however, cannot be stressed. The observation that unstressed object pronouns do not need to move has led to the assumption that the movement of the weak pronouns is only optional. Hellan and Platzack (1999) also claim that clitic object pronouns, as in *'na* and *'en*, do not necessarily move. This is demonstrated in example (143), in which the pronoun is assumed to be in the VP as it follows the negation.

- (143) a. *Jag såg inte 'na.*  
I saw not her  
I didn't see her.

However, in Hellan and Platzack (1999) it is not mentioned that a clitic form of the negation *inte*, *int'*, also exists, cf. Josefsson (2012). In the example above, this type of negation could be present (this is my own intuition), in which case the negation as well as the pronoun might have moved, i.e. (143) is not necessarily an example of a clitic in situ. If the adverb of the clause is changed to one that does not have a clitic version, e.g. *antagligen* (=probably), the clitic pronoun must move, cf. (144). My intuition is that this also holds if there is a sentence final PP present.

- (144) a. *\*Jag såg antagligen 'na (igår).*  
I saw probably her yesterday



- b. *Jag såg 'na antagligen (igår).*  
 I saw her probably yesterday  
 I probably saw her (yesterday).

The clitic pronoun may not, opposed to weak and strong object pronouns, occur in a sentence initial position, cf. (145a and b).

- (145) a. \**'na såg jag inte.*  
 her saw I not  
 Her, I didn't see.
- b. *HENNE/Henne såg jag inte.*  
 her saw I not  
 Her, I didn't see.

Note that the clitic pronoun shows the same distribution as the MPs *ju* and *väl*, for which I assumed a head status. It might thus be possible to assume that the clitic pronoun also has a syntactic head status.

If the phonological property of being unstressed were to account for the restriction from a sentence initial position, one would have to distinguish phonologically between weak and clitic pronouns, as only the former can occur in the sentence initial position. This could possibly be done, i.e. as a difference between inherently unstressed elements and elements that can carry word stress. However, as weak sentence initial pronouns are assumed to incorporate phonologically into a host, it is unclear why this should not be possible for clitic pronouns. Thus, it is plausible to assume that clitic pronouns also differ syntactically from weak pronouns, as only such an analysis could account for their ban from the sentence initial position.

The movement of weak (and clitic) object pronouns is frequently referred to as *object shift*. It only occurs in matrix clauses in which the left edge of the VP is empty, as in (141) above and (146a) below. Verb movement from VP to CP is only visible if there are adverbs or subjects in the IP-domain. In the example (146) below, the position of the verb is determined in relation to a sentence adverb. If the verb precedes a sentence adverb it is assumed to have moved out of the VP. Verbs following any sentence adverb are in the VP. If the lexical verb or any other material that occupy the left edge of the VP, such as prepositions in particle verbs, surface in the VP in matrix clauses, the object pronoun does not move, cf. (146b and c). This restriction on object shift is known as *Holmberg's generalization* (Holmberg, 1991, 1999). Further, since

there is no verb movement in embedded clauses, object shift cannot occur here, cf. (146d).

- (146) a. *Maria gav ⟨honom⟩ inte [VP ⟨honom⟩ boken].*  
 Mary.SUBJ gave him not him book.DEF  
 Mary did not give him the book.
- b. *Maria hälsade ⟨\*honom⟩ antagligen [VP på ⟨honom⟩ igår].*  
 Mary.SUBJ greeted him probably on him  
 yesterday  
 Mary probably visited him yesterday.
- c. *Maria har ⟨\*honom⟩ antagligen [VP hälsat på ⟨honom⟩].*  
 Mary.SUBJ has him probably greeted on him  
 Mary has probably greeted him.
- d. *Peter berättade att Maria ⟨\*honom⟩ inte [VP gav ⟨honom⟩ boken igår].*  
 Peter told that Mary.SUBJ him not gave  
 him book.DEF yesterday  
 Peter said that Mary did not give him the book yesterday.

In the literature, two types of object shift are distinguished: long and short shift. The long shift is a movement of a weak object pronoun to a position between the finite verb in second position and the IP-internal subject, cf. (147a) from Josefsson (1992, 61) (her example (59)). The short shift is a movement of the object pronoun to a position to the left of the VP but below an IP-internal subject, i.e. it is visible only in relation to a sentence adverb (following the DP subject), and by the pronoun preceding it, cf. (147b).

- (147) a. *Därför gladde **honom** Maria gärna med beskedet*  
 therefore pleased him.OBJ Mary.SUBJ gladly with answer.DEF  
*om pengarna.*  
 about money.DEF
- b. *Därför gladde Maria **honom** gärna med beskedet*  
 therefore pleased Mary.SUBJ him.OBJ gladly with answer.DEF  
*om pengarna.*  
 about money.DEF  
 That is why Mary was happy to please him with the answer about the money.

It is interesting to note that Hellan and Platzack (1999) comment upon the long object shift with the following words:

“Long Object Shift applies only to a subset of the class of weak pronouns. Most Swedes can take long object shift with weak reflexives, whereas the number of speakers who accept long object shift with object forms of other personal pronouns is considerably smaller.”

*Hellan and Platzack (1999, 132)*

The reason for this is not discussed any further by Hellan and Platzack, and the examples given in Hellan and Platzack (1999) to show this distinction are one with a reflexive pronoun, cf. (148a) and one with a bisyllabic object pronoun, cf. (148b), both from Hellan and Platzack (1999, 132).

- (148) a. *Igår kammade sig Erik inte på hela dagen.*  
 yesterday combed REFL Eric not on whole daytextsdef  
 Yesterday Eric did not comb his hair for the whole day.
- b. *På stationen mötte henne hela släkten med blommor*  
 at station.DEF met her whole family.DEF with flowers  
*och presenter*  
 and gifts  
 At the station her whole family met her with flowers and gifts.

The claim that the sentence in (148a) should be more easily acceptable than the one in (148b), and if this is in any way related to the reflexiveness of the pronouns, is not addressed any further in Hellan and Platzack (1999). I would like to point out that the reason for *long object shift* being preferred with reflexive pronouns is not necessarily related to their reflexiveness, but could be accounted for if the difference in length of the two types of pronouns are taken into consideration. All reflexive pronouns are monosyllabic, and often homonymic with the object pronouns. The only exception to this homonymity are pronouns for 3p.sing/pl, which are *honom/henne* (3p.sing.masc/fem) (=him/her), and *dem* (3.p.pl) (=them) in the object form, but *sig* (himself/herself/themselves) as reflexives. Examples with mono- and bisyllabic object pronouns (not in a reflexive usage) are given in (149). If the length of the pronoun affects its ability to undergo long or short object shift, it is expected that (149a) is preferred over (149b).

- (149) a. *Varför hjälper mig Helge inte?*  
Why helps me Hegle not  
*Why does not Helge help me?*
- b. *Varför hjälper honom Helge inte?*  
Why helps him Hegle not  
*Why does not Helge help him?*

Recall that data from the experiments indicate that length of the pronoun affects its position in the middle field in relation to adverbs (and MPs). A long shift above IP-internal DP subjects was not tested, but given the results of 5.1 that showed that the MPs *ju* and *väl* always precede DPs. Thus, a shift above an MP can be argued to also be a long shift. The results showed that the length of the pronoun was greatly affected its ability to precede the MPs *ju* and *väl*. This is an idea I will address in section 6.4.2 in detail.

## 6.2. The trigger of object shift

As stated above, object shift is an optional movement of unstressed pronouns out of the VP and into the IP-domain of matrix clauses. The phenomenon, especially the trigger behind object shift, has been discussed extensively in the literature and syntactic as well as phonological analyses have been proposed. Because object shift correlates with verb movement, cf. *Holmberg's generalization*, it is frequently assumed to be a syntactic phenomenon. In the earlier research on object shift, it was often claimed that the relevant factor for object shift is that the pronoun which shifts is marked for case, cf. Holmberg (1986), but in more recent research it is often claimed that information structure (Holmberg, 1999) or the phonological properties of pronouns are the driving force behind object shift, cf. Josefsson (2012), Erteschik-Shir and Josefsson (2017), Hosono (2010).

In the following sections, I will take a thorough look at proposed analyses of object shift and more importantly, which properties of pronouns are claimed to influence their ability to undergo object shift. This will be done using data found in the literature, but also drawing from the results of the experiments presented in the previous chapter. Once all the features of object pronouns that undergo object shift are listed, i.e. the potential triggers of object shift any analysis of object shift should be able to account for are identified, I will

argue in favour of a phonological analysis thereof.

### 6.2.1. Case marking

The first aspect claimed to be a prerequisite for object shift, apart from an empty VP-edge, is case-marking. Holmberg (1986) states that only case marked pronouns shift. However, as noted in Holmberg and Platzack (1995), this property is only relevant when the pronoun shifts into a position above a DP subject (in inverted position) in the IP-domain, i.e. in case of long object shift. Compare (150a), in which a case marked object pronoun may precede the DP subject (unmarked for case), to (150b and c) which show that an unmarked pronoun *den* (=it, 3p.sing.utr.subj/obj) cannot occur preceding the DP subject, but must follow it.

- (150) a. *Därför glädde honom Maria med beskedet om pengarna.*  
 therefore pleased him.OBJ Mary with answer.DEF about money.DEF  
 Therefore Mary pleased him with the answer about the money.
- b. # *Då lå den Peter säkert på hyllan i hallen.*  
 Then lay it.SUBJ/OBJ Peter surely on shelf.DEF in hall.DEF  
 Intended: Surely Peter put it on the shelf in the hall.
- c. *Då lå Peter den säkert på hyllan i hallen.*  
 Then lay Peter it.SUBJ/OBJ surely on shelf.DEF in hall.DEF  
 Surely Peter put it on the shelf in the hall.

In Swedish, if there is no case marking, the ordering of arguments following the finite verb in second position is subject preceding object. Thus, the first DP following the finite verb in a matrix clause will be interpreted as the subject and the second as the object. Any other interpretation is ruled out, see translations in (151b)<sup>5</sup>.

- (151) a. *Igår bet hunden pojken i benet.*  
 yesterday bit dog.DEF boy.DEF in leg.DEF  
 Yesterday the dog bit the boy in the leg.

<sup>5</sup>Note that DP objects do not shift, as indicated by their position following the sentence adverb in (151a and b)

- b. *Igår bet pojken hunden i benet.*  
 yesterday bit boy.DEF dog.DEF in leg.DEF  
 Yesterday the boy bit the dog in the leg. / # Yesterday the  
 dog bit the boy in the leg.

The same restriction on the ordering holds when an unmarked pronoun precedes a DP, i.e. it is by its position interpreted as a subject pronoun. The pronoun in example (150b) will thus receive subject-status. This status of the pronoun combined with the verb *lägga* (=to put), which requires an animate agent, results in an implausible reading of the sentence. As a consequence thereof, this sentence is deemed to be ungrammatical. If the pronoun occurs in a position following the DP (also not marked for case) it is interpreted as an object and the sentence is grammatical, cf. (150c). (Note that (150c) is an instance of short object shift.)

The same linearisation of subject preceding object is also necessary if the conflict of animacy in the example above is resolved. In example (152), the pronoun *dom* (=they/them) is used. This pronoun is not marked for case (3.p.pl.subj.obj) and thus, if this pronoun is preceded by a DP, it will be interpreted as the object of the clause, cf. (152a). If the pronoun *dom* (=they/them) precedes the DP, the pronoun will be interpreted as the subject, cf. (152b) with interpretation in the translation.

- (152) a. *Igår såg Peter dom på stan.*  
 yesterday saw Peter.SUBJ OBJ/\*SUBJ on town.DEF  
 Peter saw them in town yesterday.  
 # They saw Peter in town.
- b. *Igår såg dom Peter på stan.*  
 yesterday saw \*OBJ/SUBJ Peter on town.DEF  
 They saw Peter in town yesterday.  
 # Peter saw them in town yesterday.

If both the subject and the object in the clause are pronouns, they can be reordered (i.e. deviate from the order subject before object) if one of the pronouns is case marked. The case marked pronoun might either be the subject pronoun, as in cf. (153a), or the object, as in cf. (153b). If the first pronouns is unmarked, as *dom* (=they/them) and followed by a subject pronoun, the result is an ungrammatical sentence, cf. (153c), as the first pronoun will re-

ceive its subject status by position but is followed by a second pronoun which is case marked as subject.

- (153) a. *Igår såg jag dom på stan.*  
 yesterday saw I.SUBJ they/them.OBJ/SUBJ on town.DEF  
*I saw them in town yesterday.*
- b. *Igår såg dom mig på stan.*  
 yesterday saw they/them.OBJ/SUBJ me.OBJ on town.DEF  
*They saw me in town yesterday.*
- c. \* *Igår såg dom jag på stan.*  
 yesterday saw they/them.OBJ/SUBJ I.SUBJ on town.DEF  
*Intended: I saw them in town yesterday.*

Two case marked pronouns may also co-occur, in any ordering, although the ordering of subject preceding the object is preferred, especially if the object pronoun is bisyllabic, cf. (154).

- (154) a. *Igår såg han oss på stan.*  
 yesterday saw he.SUBJ us.OBJ on town.DEF  
 Yesterday he saw us in town.
- b. *Igår såg oss han på stan.*  
 yesterday saw us.OBJ he.SUBJ on town.DEF  
 Yesterday he saw us in town.
- c. ? *Igår såg honom vi på stan.*  
 yesterday bit we.SUBJ him.OBJ on town.DEF
- d. *Igår såg vi honom på stan.*  
 yesterday bit we.SUBJ him.OBJ on town.DEF  
 Yesterday we saw him in town.

Holmberg (1999) further argues that case cannot be the driving force behind any kind of object shift, as strong pronouns also are case marked but do not shift.

- (155) a. *Igår såg Peter OSS på stan.*  
 yesterday saw Peter.SUBJ US.OBJ on town.DEF  
 Peter saw them in town yesterday.
- b. \* *Igår såg OSS Peter på stan.*  
 yesterday saw US.OBJ Peter on town.DEF

They saw Peter in town yesterday. /# Peter saw them in town yesterday.

The examples discussed in this section show that case marking is relevant in order to determine if a pronoun can undergo long, i.e. above a IP-internal DP, object shift. However, case is not relevant for a short shift above an adverb, as shown in (150c) or for a shift above a case marked pronoun. Thus, case marking cannot be the driving force behind object shift.

### 6.2.2. Information structure

The hypothesis that case is the trigger for object shift is refuted by Holmberg (1999) and replaced by analysis of object shift as a reflex of information structure. He argues that object shift is a post spell out operation, which belongs to the domain of “*stylistic syntax*” (Holmberg, 1999, 21), i.e. defined as formal syntax with access to phonological properties. Holmberg (1999) assumes that object shift must be a PF operation, because it is sensitive to phonological properties and is not blocked by syntactic traces, but only by visible material in the VP-domain, such as verbs, verb particles, prepositions or indirect objects, cf. (156) for an example with a verb particle blocking object shift of the direct object pronoun.

- (156) a. *Jag hälsade<sub>v</sub> ⟨\*dem⟩ inte [VP t<sub>v</sub> på ⟨dem⟩ igår.]*  
 I visited them not on them yesterday  
 I didn’t visit them yesterday.

Once the visible material has moved out of the VP domain, the object pronouns must shift according to Holmberg (1999). The formal account is the following: The VP domain is a focus domain and any unfocused material must move out of it. As a result, an unfocused pronoun must move, but focused pronouns may not move. Focus is defined as a necessary feature which is either inherent, as in weak pronouns, or ascribed to an element in the clause at some point in the derivation. The unfocused pronouns are inherently –FOC, and must move into a position where it is licensed, i.e. into a position following an entity with a +FOC feature. Verbs, verb particles, and DPs (optionally<sup>6</sup>) are +FOC, and as such they can license a –FOC (e.g. pronoun) in the closest

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<sup>6</sup>Optionality is ascribed to DPs in order to also account for Icelandic object shift, which applies to DPs as well as pronouns.



following position. This postulation allows to account for why pronouns shift when the VP is empty, but why they do not necessarily shift into the position immediately following the verb, as in long object shift, but can also follow an inverted subject, i.e. short object shift. It also explains why weak pronouns do not shift, when a +FOC element, such as a verb, remains in the VP, i.e. –FOC can be licensed in the VP if the verb, verb particle, preposition remains in the VP.

However, there are some problems with this analysis. A problem noted by Holmberg is the occurrence of unstressed pronouns in the sentence initial position, i.e. in a position where they cannot be governed by a +FOC element. There is no satisfactory explanation for this, but Holmberg stipulates that, in order to account for a sentence initial weak pronoun, the –FOC-feature might be checked in other ways. However, this is not elaborated any further in his analysis.

A further problem is that ascribing an inherent –FOC feature to a weak pronouns makes a too strong prediction. It cannot account for the optionality of object shift of weak pronouns. which is claimed to exist in Josefsson (2012) and also is found in the results of the experiments presented in chapter 5. Further, it cannot account for the occurrence of weak pronouns in between multiple sentence adverbs. Holmberg’s solution is to state that these pronouns are optionally –FOC.

### **Data with object pronouns**

Before I turn to the question of phonological reasons of object shift, I will quickly address the question if any type of focus might influence the position of the object pronouns. With DPs the data presented in the previous chapter showed that only explicit contrast has an effect on the position of (given or new) DPs with respect to sentence adverbs. In the following, I will give my own intuitions about pronouns in the same settings:

#### **+given,-foc,-contrast**

(157) Context:

*Eleven träffar ofta matteläraren efter skolan.*

Pupil.DEF meets often teacher.DEF after school.DEF

The pupil often meets the teacher after school.

Target:

*Läraren hjälper ⟨honom⟩ förmodligen ⟨\*honom⟩ med*  
 Teacher.DEF helps him probably him with  
*läxorna.*

home work.DEF

The teacher probably helps him with the home work.

**+given,+foc,-contrast**

(158) Context:

*Eleven träffar ofta matteläraren efter skolan. Det gör*  
 Pupil.DEF meets often teacher.DEF after school.DEF that does  
*många av eleverna.*

many of pupils.DEF

The pupil often meets the teacher after school. Many of the pupils do.

Target:

*Läraren hjälper ⟨honom⟩ förmodligen ⟨honom⟩ med*  
 Teacher.DEF helps him probably him with  
*läxorna.*

home work.DEF

The teacher probably helps him with the home work.

**+given,+foc,+contrast**

(159) Context:

- a. *Vilka av eleverna träffar ofta matteläraren efter skolan?*  
 which of pupils.DEF meets often teacher.DEF after school.DEF  
 Which one of the pupils often meets the teacher after school?

Target:

- b. *Läraren hjälper ⟨\*honom⟩ förmodligen ⟨?honom⟩ med*  
 Teacher.DEF helps him probably him with  
*läxorna.*

home work.DEF

The teacher probably helps him with the home work.

- c. *Läraren hjälper ⟨\*HONOM⟩ förmodligen ⟨HONOM⟩ med*  
 Teacher.DEF helps him probably him with  
*läxorna.*

home work.DEF

The teacher probably helps him with the home work.

The examples show that the only information structural category that prohibits a movement of the pronouns into the middle field is explicit contrast (as focused elements may precede the adverb). This mirrors the findings for DPs, where contrast, but not focus, had an effect on the position of DPs with respect to sentence adverbs. However, it has been stated that contrast comes with an additional prosodic prominence, cf. Selkirk (2008). Thus, it is not possible to detect whether contrast or the accompanying phonological prominence affects the position of the pronoun. Recall that sentence stress falls on the latter constituents in a sentences, and the pronouns also might be stressed because of their position. Further, it must be noted that in order for the target in (159) to form a coherent answer to the question, an additional physical gesture pointing out the referent of the pronoun is needed, i.e. this also is an instance of gestural deictic usage of pronouns, which is accompanied by stress, as discussed by Bruce (2012). This might account for the dis-preferred usage of an unstressed pronoun in this target.

The examples above and the possible analyses thereof show that it is not possible to tell if contrast affects the position of the pronoun or if the stress of the pronouns comes from its position. Thus, in order not to stipulate that object shift is an effect of information structure, a phonological account of object shift must be taken into consideration.

### **6.2.3. A phonological approach to object shift**

Hellan (1994) offers a phonological account of object shift and claims that shifted pronouns phonologically cliticize onto a lexical category. He states that potential hosts can be verbs and subjects but not adjuncts, such as sentence adverbs, i.e. the underlying assumption is that object shift is an obligatory movement, which needs to be accounted for. Holmberg (1999) criticizes this proposal and says that it is unclear why adjuncts cannot serve as hosts for pronouns. However, observation by Josefsson (2012) and Erteschik-Shir and Josefsson (2017), and my data show that object pronouns do not have to shift, i.e. unstressed object pronouns may occur following sentence adverbs as well as preceding them.

Josefsson (2012) presents a study<sup>7</sup> and the results speak in favour of a phonological analysis of object shift. She states that unstressed pronouns move because they are phonologically ‘light’. She also discusses the difference between mono- and bisyllabic pronouns and states that there is a preference for shifting of the monosyllabic (case-unmarked) pronoun *den*, compared to the bisyllabic (case marked) pronouns *henne* or *honom*. In her study, the linearisation of the monosyllabic pronoun *den* (=it) preceding the negation *inte* was preferred significantly more often than the opposite linearisation, i.e. the negation preceding the monosyllabic pronoun. For bisyllabic pronouns she found no preference for any position with respect to the negation. Her conclusion is that object shift is preferred, but only statistically significant for the monosyllabic pronoun, i.e. this observation that the length of the pronoun affects its tendency to undergo object shift is in line with the results of the experiments presented in chapter 5.

Josefsson (2012) accounts for object shift as a need of phonological integration of weak pronouns into a host word, i.e. weak pronouns must form a phonological unit with the word preceding it. The unstressed object pronouns are observed to share some properties with inflectional suffixes, and Josefsson claims that the pronouns are “inflectional” ((Josefsson, 2012, 16)) (in a phonological sense, not syntactic) and the host can be a verb, subject DP or an adverb<sup>8</sup>. Josefsson states that, when a host word and a weak object pronoun make up a prosodic word, the first syllable (the host) receives stress and the second syllable (the object pronoun) is unstressed. The phonological incorporation of the pronoun into its host is evident once word accent is taken into account. If the host has accent 1, the constituent as a whole will also have word accent 1, i.e. shifted pronouns behave like non-accent shifting affixes. This is demonstrated in (160). In (160a) the accent of the host word is demonstrated, and in (b) the non-effect on this accent if the pronoun is incorporated is shown.

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<sup>7</sup>A small study (26 participants) testing grammatically judgements of different types of object shift of mono- and bisyllabic pronouns.

<sup>8</sup>It must be noted that the usage of the term *inflectional* to describe weak pronouns is unfortunate, as pronouns are not affixes, nor express any inflection. The pronouns are not restricted to a certain type of host as affixes are, i.e. the latter only attach to a certain category, e.g. verbs or DPs, whereas pronouns can incorporate into any phonological word, i.e. verbs, DPs or adverbs.

- (160) a. *Damen såg den inte* (accent 1: [*'damən*])  
lady.DEF saw it not  
The lady didn't see it.
- b. *Därför såg damen den inte* (accent 1: [*'daməndən*])  
Therefore saw lady.DEF it not  
Therefore, the lady didn't see it.

Josefsson, assuming that object shift is not an obligatory movement, accounts for the difference between mono- and bisyllabic pronouns with respect to object shift as follows:

*“One stressed syllable followed by two unstressed ones works fine in Swedish, but if too many unstressed syllables are stacked after each other, the derivation deteriorated - for simple phonological reasons. This, I claim, is why disyllabic pronouns, such as *henne* (her) and *honom* (him) are more “apt” to remain in situ (or at least what appears to be in situ), whereas monosyllabic object pronouns, such as *den* (it.common) “it” are more inclined to appear in a shifted position.”*

(Josefsson, 2012, 17)

The reason why bisyllabic pronouns are less prone to shift than monosyllabic ones is thus that a shifted bisyllabic pronoun might result in a too long string of unstressed syllables when it is incorporated into a host word.

Further, Josefsson also links the movement of objects to their information structural status as she points out that old information, i.e. given information, tends to move into the middle field. However, she notes that full DP objects that are given cannot move but only pronouns move. The reason for this she states is the fact that only pronouns are case marked. However, in section 6.2.1, the hypothesis that case is necessary for object shift was refuted and Josefsson also presents data contradicting this, as she discussed object shift with unmarked pronouns such as *den* (3.p.utr). Additionally, it is unclear how the claim that pronouns must undergo object shift because they are given would account for the non-shift of stressed pronouns. They must also be considered to be given by their nature as referents to some known entity in the context, but still they cannot undergo object shift.

Even though I do not agree with the details concerning the relation between information structure and object shift in Josefsson's analysis, I do find the claim that she makes about the phonological properties of object shifted pronouns interesting. Her observation that the length of the pronoun seems to influence the pronoun's capacity to undergo object shift can, first of all, account for the remark noted above by Hellan and Platzack (1999) that long object shift is more widely accepted with reflexive pronouns (all monosyllabic) than other forms. Second, this observation is also in line with the findings from the experiments, i.e. that the length of the pronoun affects its position. Further, the postulation that object shift is not a necessary movement is also in line with my results.

In the following section I will present some additional observations made about pronouns that are useful in order to address the question if object shift might be a phonological operation.

#### **6.2.4. Phonological properties of shifted pronouns**

Riad (2014), in his description of the phonology of Swedish, makes the same observation about pronouns as Josefsson (2012), i.e. that unstressed pronouns can incorporate into a host word. This holds for subject as well as object pronouns and the assumption is supported by two types of evidence, (i) the effect on accent (as discussed Josefsson (2012)) and (ii) a loss or presence of the initial phoneme /h/ in 3rd person singular masculine and feminine pronouns. In the following, I will present data for both types of evidence.

In the phonology of Swedish, the two main categories of words, lexical words and function words, can be distinguished on a phonological level by the lack or presence of tonal accent. Lexical words necessarily carry tonal accent, function words do not, cf. Gårding (1989) and Riad (2014). Both pronouns and MPs fall under the latter type. Whereas lexical words all carry stress and a tonal accent, function words come in three types that can be distinguished by their phonological properties:

The first class of function words are inherently unstressed elements that never can receive stress. It must be noted that when the term *stress* is used in this section, it is used to refer to stress on the level of the word and not to sentence stress. The only example of a function word of this type is according to Riad (2014) the word *ju*. This will be discussed in detail in the section 6.4.

The second class are function words that frequently are unstressed but can be stressed (and also carry a tonal accent). This is exemplified by the monosyllabic pronoun *den*. The third class are function words which are always stressed, i.e. contain a lexical stress, but accented or unaccented depending on context, such as the demonstrative pronoun *denna* (=this).

Thus, it is necessary to distinguish between multiple phonological/prosodic levels of a word: stress is the lowest level and tonal accent is above this, i.e. the presence of stress is a prerequisite for tonal accent, but a word can carry word stress without necessarily carrying a tonal accent. Only a word which carries a tonal accent can receive sentence stress, i.e. sentence stress is above word stress, but also above tonal accent.

Riad further postulates a relation between the stress of a word and its structure as a minimal or a maximal phonological word. A stressed word, such as a pronoun, is a minimal word. An accented word, i.e. with tonal accent 1 or 2, is a maximal word, i.e. monosyllabic lexical words are minimal and maximal at the same time. A word can move from one category to another by a reduction or increase of stress. If a reduction applies to an already minimal word, e.g. if a pronoun occurs unstressed, it must incorporate into a prosodic word.

The pattern of stress and incorporation is present in suffixes of DPs, of which some carry stress and others do not. If the suffix carries stress, i.e. forms a minimal phonological word of its own and is added to the lexical word, it will change the accent of the resulting prosodic word, cf. (161a) from (Riad, 2014, 222), with a stressed suffix (-ar) (=INDEF.PL). A suffix without stress does not form a minimal phonological word and does not have an effect on the accent of the stem. One example of this type of suffix is the definite article (-en), cf. (161b).

- (161) a. SG.INDEF [1'bil] (*car*), PL.INDEF [2'bil]-ar<sub>2</sub>  
           (*cars*)  
       b. SG.INDEF [1'bil] (*car*), SING.DEF [1'bil]-en  
           (*the car*)

This non-effect on the accent of a word is the same one as noted by Josefsson (2012) for shifted object pronouns, as discussed in the previous section.

If a functional word is phonologically incorporated into a phonological word,

it will be visible in the syllabification, as the minimal word also is the domain of syllabification. If a minimal word is not incorporated into a host word, it will form its own domain of syllabification. Compare on the one hand the word (här.mar)<sub>ω</sub> (present tense, all person, sing/pl, of *imitate*) in which the suffix *-r* is incorporated into the stem (*härma-*), and on the other hand the maximal word *härmapa* (imitation monkey) in which two minimal phonological words form one maximal word, as shown by their syllabification. The correct syllabification is: (härm)<sub>ω</sub> (a.pa)<sub>ω</sub> which indicates that the maximal word encompasses two minimal words. The syllabification \*(här.ma.pa)<sub>ω</sub> is not possible, as it would require the string to be one minimal word, examples are from (Riad, 2014, 118). The same incorporation is present with pronouns, cf. the syllabification of the phrase *gav henne* (=gave her) as *ga.ve.ne* rather than *gav.e.ne*.

The second type of evidence that indicates incorporation is the presence of the phoneme /h/, which serves as an indicator for stress in a word-medial position as well as for the left boundary of a phonological word. The /h/ will be pronounced, in a word initial position, unstressed or not, but only in a medial position if it occurs in a stressed syllable. If a function word with an initial /h/ is phonologically reduced and thus must incorporate into the preceding word, /h/ will be lost. This is demonstrated in example (162a and b) from (Riad, 2014, 136) for subject as well as object pronouns, i.e. a loss of an initial /h/ in an object shifted pronoun indicates that it has indeed incorporated into the preceding word.

- (162) a.    ('kan han)<sub>ω</sub> (DET)<sub>ω</sub>  
           [ʔkan:an'de:] \*['kan:han'de:]  
           Can he do that?
- b.    ('gav henne) ('MJÖLK)  
           [ʔga:vɛnɛ    'mjøl:k]    \*['ga:vhɛnɛ'mjøl:k]  
           gave her milk

If a pronoun, such as *han* (=he:3.p.sing.subj.masc) or *henne* (=her:3.p.sing.obj.fem), occurs in a sentence initial position, the /h/ will be articulated, cf. (163a). These pronouns however need not be stressed, as /h/ is also pronounced in unstressed syllables in a word initial position, (Riad assumes that sentence initial pronouns can incorporate into the following word, e.g. the finite verb). However, it must be noted that a clitic pronoun, also in need of a host to



incorporate into, may not occur in a sentence initial position, cf. (163b). It is necessary to distinguish between the weak, unstressed pronoun and the clitic with respect to their phonological status, which might affect their possible positions<sup>9</sup>. Clitics, belonging to the type of function words that can never be stressed, i.e. the first class presented above, need a host, whereas weak pronouns do not necessarily need to incorporate. However, as unstressed material is not strictly banned for the sentence initial position, the reason why clitics can only incorporate to the left, and not to the right, might be a result of a syntactic head status and not of their phonological status, as I argued for the MPs *ju* and *väl*, also banned from a sentence initial position.

- (163) a.  $(han\ kan)_{\omega} (DET)_{\omega}$   
           \*[an'kan:'de:] [han'kan:'de:]  
           He can do that.
- b. \* 'na           såg jag igår.  
      her.CLITIC saw I   yesterday  
      I saw her yesterday.

The phonological observations of pronouns by Riad (2014) show that pronouns can incorporate into a host and support the analysis by Josefsson (2012) of object shift as (partially) driven by the phonological properties of object pronouns. The effect of length on the ability of a pronoun to undergo object shift noted by Josefsson (2012) and found in the experiments presented in chapter 5, can be accounted for by the additional assumption that monosyllabic pronouns are more easily reduced than bisyllabic ones, perhaps by belonging to two different types of function words, i.e. maximal or minimal words, as shown above.

Reviewing the phonological properties of pronouns, and combining this with the insight that the length of the pronoun affects its ability to undergo object shift, all indicate that object shift is related to phonological properties of the pronouns. Further, as the discussion with subject and object pronouns showed, the reason for a shift seems to be to avoid occurring in a sentence final position, where it would by default receive the main stress of the sentence. That assumption is supported by the observation that object pronouns which do not shift can be unstressed when they occur in their sentence final position, i.e. in the VP domain, and another constituent follows the pronoun.

<sup>9</sup>See also discussion in section 6.1.2 about clitics as syntactic heads.

### 6.2.5. A phonological account of Holmberg's generalization

In the sections above we have seen arguments that all speak in favour of a phonological analysis of object shift. Firstly, object shift is dependent on the phonological status of the pronoun, i.e. only unstressed pronouns may undergo object shift. Secondly, unstressed pronouns occur phonologically incorporated into a host word.

The need to incorporate can be a motivation for a pronoun to move from its VP position, possibly to avoid the main stress of the sentence, and also gives these pronouns their clitics-like status. One only aspect of object shift that remains unsolved up until now, even when taking the phonological properties of pronouns and prosody of the sentence into account, is the puzzle posed by *Holmberg's generalization*. Recall the impossibility for pronouns, even unstressed, to move if the left edge of the VP-domain is occupied by any visible element. In the following, I will discuss whether this also could be accounted for by a purely phonological analysis.

Bennett et al. (2016) offer a purely phonological account of postposing of pronouns in Irish that might also be applicable to the Swedish object shift and account for *Holmberg's generalization*. The postposing of light words in Irish, i.e. pronouns, bares some similarities to object shift in Swedish. The movement of pronouns is described to be optional and there is not one specific position in which the postposed pronoun occurs, but it appears in a range of different positions. Bennett et al. (2016) also state that there seems to be no correlation for this movement with information structure or discourse function.

Their analysis is based on a phonological constraint labelled *strong start* by Selkirk (2008), i.e. prosodic dependent constituents are not able to occur at the left edge of a prosodic constituent, as the left edge is prosodically prominent. There are three options to not violate *strong start*: A: postpose the (Irish) pronoun to the right edge of a prosodic phrase, option B: leave the pronoun in-situ but cliticize onto a preceding word. Option C: parse as a prosodic word, in which case it is stressed.

Applying their account to Swedish object shift might be fruitful, as it might present a phonological account for *Holmberg's generalization*. Further, the three options to avoid a weak element on the left edge of a prosodic phrase might account for the optionality of object shift in Swedish. The analysis

might be applied as follows: A movement of a finite verb, particle or object out of the VP results in an empty VP edge. If the VP is an individual prosodic phrase<sup>10</sup>, this means that a weak pronoun remaining in the VP occurs at the left edge of a prosodic phrase, i.e. *strong start* would be violated. As this must be avoided, one of the three options can be implemented: First, the pronoun might move and find a host to incorporate to. This host could be a finite verb in second position, a subject DP in the middle field, or a sentence adverb. A movement of the pronoun is only visible in the former two cases, i.e. in cases described as object shift. An incorporation into a sentence adverb, i.e. pronoun following adverb, does not change the word order, but results in what looks like an unshifted word order. This incorporation is only detectable on the level of phonology (by a potential loss of an initial /h/, and the pronoun being unstressed).

The second possibility, to remain in situ but cliticize onto a preceding word, cannot be tested in Swedish, as only the movement of all visible element on the VP edge would trigger a need for the pronouns to move. The closest word it could incorporate into would be the adverb, i.e. there is no visible difference between this and the previous option.

The third possibility to avoid a light word at the left edge of a prosodic phrase, according to Bennett et al. (2016), is that the pronoun forms its own prosodic word, i.e. for an /h/-initial pronoun this would mean no loss of the initial /h/. If the pronoun forms an individual prosodic word, it could also carry heavier stress, i.e. tonal accent or sentence stress. This can account for weak object pronouns do not necessarily move even if the left edge of the VP is empty, but also explain unshifted pronouns may receive heavy stress.

One data, however, that seem to speak against the analysis of object shift as a means to avoid an unstressed syllable in the initial position of a prosodic phrase is the occurrence of unstressed, i.e. phonologically incorporated<sup>11</sup>, pronouns in a sentence initial position in Swedish, i.e. *strong start* does not seem to apply here. However, in Riad (2014), the presence of an initial accent in Swedish is discussed, i.e. a tone that marks a left edge of a phrase. This

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<sup>10</sup>The assumption that the VP is an individual prosodic phrase needs independent verification. But for now, I will assume it in order to see if such an assumption can account for *Holmberg's generalization*.

<sup>11</sup>It is not plausible to assume word stress for these pronouns as they do not form individual phonological words.

tone needs to associate with a stressed syllable. However, if the initial syllable is unstressed, e.g. in case of a sentence initial pronoun, the initial accent occurs later in the phrase. This could possibly account for why unstressed syllables can occur sentence initially and also account for why VP internal pronouns can be unstressed only if some other constituent follows the pronoun, cf. discussion about examples (139) and (140), i.e. it can be possible that a non-initial constituent following the unstressed element can carry the stress associated with *strong start*.

If it is plausible to assume that *strong start* is applicable in Swedish, and the details thereof, will not be discussed any further at this point. However, the discussion in this section has shown that phonology plays an important role for object shift and also for *Holmberg's generalization*. It cannot be claimed to be related purely to information structure or syntactic aspects such as focus or case marking, but is also related to the phonological properties of pronouns. In the previous section, I discussed that the stress of any pronoun (subject or object) might be related to its position in the clause in combination with the prosodic structure of utterances. A combination of these two aspects, i.e. the phonological properties of elements and the prosodic structure of the sentence, might account for occurrences of object shift as well as its optionality. However, a detailed account of *Holmberg's generalization* in purely phonological terms will be left to further research, but given the importance of phonological properties of pronouns to their ability of undergo object shift, such an analysis might be possible.

### 6.3. Intermediate summary

In the previous sections I have taken a closer look at the data any analysis of object shift needs to account for and discussed the motivation for object shift. I have shown that the claim that the phonological properties of the pronouns are important for object shift, can be related not only to stress, as frequently stated in the literature, but also the length of the pronoun. This was noted in work by Josefsson (2012), and the results from my experiments support this assumption. Further, the study conducted by Josefsson (2012), but also my own data show that object shift is not a necessary movement, but an option. My findings also showed that in comparison to adverbs, a

shift is often preferred, but relative to MPs, the shift is dis-preferred. As a result of phonology being so important to object shift, I have argued that an analysis of object shift needs to take the phonological properties of pronouns into account, and that a purely syntactic analysis cannot account for the data.

In the next section I will turn to the modal particles and discuss some commonalities between the pronouns and MPs and address the question of how much of the peculiar properties of MPs can be accounted for using a phonological analysis. It will show that some aspects of the linearisation of MPs and pronouns need to be analysed from a phonological perspective.

## 6.4. A phonological analysis of the MPs

MPs and object pronouns that undergo object shift share some properties that are worth noting. First, both are phonologically light elements, i.e. unstressed. Second, their position in the clause is dependent on verb movement. Object pronouns only shift once the finite verb or other material in the left edge of the VP has moved into the CP-domain, cf. *Holmberg's generalization*, and the MPs only occur in their high position (to the left of any subject DP in the middle field) in matrix clauses, i.e. when the verb surfaces in the CP-domain, cf. chapter 4.

These two similarities lead me to the idea that MPs and object pronouns have some commonalities, syntactic or phonological, that are worth investigating<sup>12</sup>. Further, having argued that object shift should be analysed primarily in a phonological account, I will also address the question of how much of the properties of MPs can be accounted for in a purely phonological analysis.

In the following sections I will thus review the phonological properties of MPs and discuss if this can be used to account for the position of MPs.

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<sup>12</sup>Cardinaletti (2007) and Grosz (2007) have also argued for a unified syntactic analysis of pronouns and MPs, both are analysed as deficient phrases, but note that I argued against an implementation of their analysis, but argued that the Swedish MPs are full phrases or syntactic heads. In section 6.1.1 and 6.1.2, I also argued against such an analysis of pronouns (with an exception for clitic pronouns).

### 6.4.1. Phonological properties of the MPs in Riads classification

Above I presented Riad's analysis of phonological properties of words in Swedish. In the following I will use his classification again in a discussion about the phonological properties of MPs. As discussed above, Riad (2014) proposes four classes of words, differing in their phonological properties; Lexical words carry a tonal accent and form maximal words. Functional words come in three types: (i) stressed, i.e. function words which also carry accent and form minimal words, (ii) frequently unstressed words which can carry stress and only then form minimal words, and (iii) inherently unstressed words, which never form individual phonological words.

Riad (2014) discusses the MP *ju* and states that this is the only example of a function word which can never receive stress. However, I assume that the MP *väl*, showing the same distribution as *ju*, also belongs to this class. Teleman et al. (1999) also list *väl* as an inherently unstressed element<sup>13</sup>. If we assume that both *väl* and *ju* are inherently unstressed, i.e. cannot form individual phonological words, their need to incorporate into a host word is accounted for, i.e. in a matrix clause the finite verb can host the MPs, whereas they incorporate into DP subjects in embedded clauses. Even though I assume that this phonological classification of these MPs is correct, it must be pointed out that some of the properties of these MPs cannot be accounted for in a purely phonological analysis. The first property is the adjacency of the MPs *ju* and *väl* to the finite verb.

It must be noted that, from a phonological perspective, DPs also are potential host elements, as data with pronouns show, but they cannot host MPs (nor clitic pronouns). Thus the restriction to incorporate into a verb cannot be accounted for solely by a phonological analysis, but calls for a syntactic analysis, i.e. an analysis of the MPs *ju* and *väl* as syntactic heads that adjoin to the finite verb in matrix clauses. Further the MPs *ju* and *väl* are not able to appear in a clause initial position. This also is a property they share with clitic pronouns. However, as shown with weak pronouns, unstressed material can occur in the initial position. To account for this restriction of clitic pronouns and the MPs *ju* and *väl* one would either have to postulate that clitic

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<sup>13</sup>The reason *väl* is overlooked in Riad's analysis could be the presence of the homonymic adverb *väl* (=good, well)

pronouns (and by analogy also these MPs) are more unstressed than the weak (monosyllabic) pronouns and thus banned from a sentence initial position, but it would be unclear how this difference should be defined. The second option is to argue that clitic pronouns as well as the MPs *ju* and *väl* are banned from the initial position because of their syntactic status as heads, i.e. may only appear right-adjacent to the finite verb in matrix clauses. I will come back to this discussion in section 6.5<sup>14</sup>.

Turning to the MPs *nog* and *visst*, I assume that they belong to another class of function words than *ju* and *väl*, i.e. to the class of unstressed function words that may be stressed, i.e. the same group as (monosyllabic) object pronouns. These MPs do not need to incorporate into a host word but may also form independent minimal phonological words when stressed, i.e. by word stress. They can also occur in a sentence initial position, just as pronouns. Note that these classifications are in line with the observations of phonological properties discussed in chapter 4.1, i.e. that *ju* and *väl* cannot carry word stress, but it is possible for *nog* and *visst*.

Even though it is evident that not all the properties of the MPs are best analysed in a purely phonological analysis, i.e. the distribution of the MPs *ju* and *väl*, I argue that a purely syntactic analysis cannot account for the ordering of MPs, adverbs and object pronouns in the middle field (see counterargument for a syntactic analysis of pronouns in section 6.1.1 and in next section).

It seems necessary to consider the phonological properties of the MPs as well as the properties of pronouns in order to account for the linearisation of elements in the middle field. In the following, I will once again revisit the results of the experiments presented in chapter 5 and examine if phonological considerations can account for the possible linearisations of MPs and pronouns.

### **6.4.2. Combination of object pronouns and MPs; accounting for the data**

The results of the experiments show that object shift is an optional movement of an object pronoun into a position between a finite verb and a sentence

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<sup>14</sup>I will argue that their syntactic status as heads is more relevant for their occurrence in clauses.

adverb or a MP. It is important to note that clitic pronouns will be excluded from the following discussion, as they were not tested in the experiments. Thus the following is applicable to mono- and bisyllabic pronouns. The results showed that the length of the pronoun influences its position. Length had an effect with respect to sentence adverbs, as monosyllabic pronouns are more likely to precede the adverbs than bisyllabic pronouns. However, overall both mono- and bisyllabic pronouns preceded the sentence adverb to a great extent. In total 74% of the monosyllabic and 66% of the bisyllabic pronouns preceded the sentence adverbs. The MPs are all less frequently preceded by pronouns, but the length of the pronoun affected the linearisation with respect to the MPs as well. 35% of the mono- and 17% of the bisyllabic object pronouns precede *ju* and *väl*, whereas 63% of the mono- and 46% of the bisyllabic object pronouns precede *nog* and *visst*.

One possibility to account for these results, using a purely syntactic approach is to claim that all the monosyllabic pronouns are syntactic clitics, i.e. heads, when they occur between the finite verb and a MP. However, such an assumption is not correct, as these pronouns might also occur (unstressed) in positions in which they cannot be analysed as heads, e.g. sentence initially or following a MP or an adverb. Example (164) shows that the weak pronouns can occur in all the positions available to strong pronouns. Further, above I argued that the question whether a pronoun receives stress in any given position is related to the prosodic structure of an utterance. A pronoun occurring in the sentence final position must be stressed (this position is visible when the pronoun follows a sentence adverb). However, if any other constituent follows the pronoun in this position, it need not be stressed, cf. (164b).

- (164) a. Strong pronoun:
- i. Peter träffade ⟨\*HONOM⟩ inte ⟨HONOM⟩ igår.
  - ii. HONOM träffade inte Peter igår
- b. Weak pronoun:
- i. Peter träffade ⟨honom⟩ inte ⟨honom⟩ igår.
  - ii. Honom träffade inte Peter igår.
- c. Clitic pronoun:
- i. Peter träffade 'na inte igår.



If one wants to maintain the idea that pronouns adjacent to verbs in the middle field are syntactic heads, one would have to assume three, partly homonymic, syntactically distinct versions of each pronoun, in line with the analysis of Italian pronouns by Cardinaletti and Starke (1994). In section 6.1.1, I discussed the applicability of such an analysis of pronouns in Swedish and refuted it, as it showed that other properties argued to apply only to strong pronouns, also applied to weak pronouns in Swedish. Further, a syntactic approach cannot account for the effect of the length of the pronoun, or rather: it leaves the question open why bisyllabic pronouns are more readily realized as strong or weak pronouns whereas monosyllabic pronouns rather occur as weak or even clitic pronouns. Thus, assuming multiple syntactic phrasal structures for the pronouns is not desired.

In the discussion about object shift above, it was argued that only phonological properties affect the position of the pronoun in the clause, and demonstrated that both unstressed mono- and bisyllabic pronouns can incorporate into the preceding word, i.e. any unstressed pronoun might form a unit with its preceding word. According to Josefsson (2012), this was dis-preferred for bisyllabic pronouns, as this results in a too long string of unstressed syllables. In the following I will explore the possibility to account for the preferred linearisation of MPs and pronouns when they co-occur using a phonological account.

Recall that, if the MPs are unstressed elements, they need to incorporate into a host word. Such an incorporation is displayed in (165). In this example it shows that the MP *ju* can incorporate into the verb *gillar* (=like).

(165) *gillar* + *ju* [2'gillar] + [ju] → [2' jɪlaju]

If the MP necessarily incorporates, a pronoun which intervenes between the finite verb and the MP must also be incorporated into the verb, i.e. verb, pronoun and MP must form one phonological word. This is demonstrated for a monosyllabic pronoun *oss* (=us) as well as bisyllabic pronoun *henne* (=her), cf. (166a) and (166b). The incorporation is visible in the syllabification and lack of an initial /h/ in the pronoun, cf. (166b). If the pronoun follows the MP, the MP can still be incorporated, but the pronoun forms an individual phonological word, i.e. pronounced with an initial /h/, cf. (166c).

- (166) a. (*'gav oss ju*)<sub>ω</sub>  
           [*'gav:os.ju*]  
           Syllabification: (*ga.vos.ju*)  
           Gave us, as you know
- b. (*'gav henne ju*)<sub>ω</sub> (*'MJÖLK*)<sub>ω</sub>  
           [*'ga:vɛnɛju 'mjøl:k*] / \* [*'ga:v hɛnɛ ju 'mjøl:k*]  
           Syllabification: (*ga.ve.ne.ju*)  
           Gave her, as you know, milk.
- c. (*'gav ju*)<sub>ω</sub> (*henne*)<sub>ω</sub> (*'MJÖLK*)<sub>ω</sub>  
           \* [*'ga:vjuɛnɛ 'mjøl:k*] / [*'ga:vju hɛnɛ 'mjøl:k*]  
           Syllabification: (*ga.vju*) (*he.ne*)  
           Gave her, as you know, milk.

It must be noted that the linearisation in (166c) is the preferred one for all MPs in combination with bisyllabic pronouns, whereas the linearisation in (166b) with a bisyllabic pronoun preceding an MP is the less preferred word order for all MPs. For the linearization of monosyllabic pronouns and the MPs there is a difference between the two types of MPs. For the MPs *ju* and *väl* the preferred linearisation is MP preceding the pronoun. For the MPs *nog* and *visst* the preferred linearisation is monosyllabic pronouns preceding the MPs.

The effect of the length of the pronoun and the general dis-preference for (bisyllabic) pronouns to precede MPs can be accounted for if we take Josefsson's observation of object shift into account. Josefsson (2012), as quoted in section 6.2.3, states that the reason for the linearisation of a bisyllabic pronoun preceding an adverb is less preferred than monosyllabic pronouns preceding the adverb, is that the former linearisation results in a too long string of unstressed material. I will argue along the same lines and additionally take the phonological properties of the MPs into account. The MPs *ju* and *väl* are least likely to be preceded by any pronoun as they need to incorporate into a host. An incorporation of a pronoun preceding these MP is easier, but not preferred, if the pronoun is monosyllabic with the result of the verb hosting two unstressed syllables, i.e. pronoun and MP. It is less preferred if the pronoun is bisyllabic, as it results in the verb hosting three unstressed syllables. The MPs *nog* and *visst*, being unstressed words which may carry stress, are flexible between a need to incorporate and the ability to form independent phonological function words. As a result of their flexibility, they

can appear incorporated, i.e. preceding all pronouns, but also as independent words preceded by pronouns. The pronouns are also flexible, and it seems as if monosyllabic pronouns prefer incorporation, and thus precede these MPs, whereas the bisyllabic pronouns are equally likely as the MPs to form individual phonological or incorporate, (hence their distribution of approximately 50 % of the bisyllabic pronouns preceding and 50% following the MPs).

The linearisation of pronouns and MPs thus seems to be a result of the phonological properties, i.e. the differences between mono- and bisyllabic pronouns as well as of the two types of MPs. A preference for a certain linearisation is a result of an interaction between the phonological properties of pronouns and MPs. Further, the preference for pronouns to precede adverbs can be accounted for in the same lines: adverbs always form independent phonological words, and thus do not incorporate. As a result, mono and bisyllabic pronouns precede the adverbs to a greater extent than any of the MPs, (although there is also an effect of the length of the pronoun).

## 6.5. How much is syntax, how much is phonology?

Having discussed the phonological properties of MPs in detail and seen that phonology can be used to account for the linearisation of MPs and pronouns in clauses, I will in the following section address the question of how many of the properties ascribed to the MPs can be accounted for by a purely phonological analysis, and how many by a syntactic analysis.

**ju and väl** The MPs *ju* and *väl* display following noteworthy properties: They are banned from a sentence initial position. In the middle field of matrix clauses, the MPs must occur adjacent to the finite verb in matrix clauses, and only pronouns can intervene, whereas in embedded clauses, these MPs must occur adjacent to DP subjects. Further, they are inherently unstressed elements.

Using the syntactic analysis, their inability to occur sentence initially is accounted for by the assumption that these MPs are syntactic heads. Having this status they are banned from the sentence initial, phrasal, position. However, as stated above in the discussion about clitic pronouns, it might also

not be possible to have inherently unstressed material in a sentence initial position, i.e. it can be a result of their phonological properties. But recall that this requires the additional, but implausible, assumption that clitics and weak pronouns occurring sentence initially differ phonologically. This is implausible, as both types of pronouns can be incorporated into a host. It is unclear which phonological property would restrict the clitic element to only incorporate into a preceding element, whereas weak pronouns might incorporate into a preceding or following element. Only a syntactic analysis of the clitic pronouns, and also of these MPs as syntactic heads could account for both the necessity to incorporate only into a preceding verb, but also for the restriction from the initial position.

The position of these MPs in the middle field can be accounted for by both approaches to a certain extent, although a syntactic analysis also has greater explanatory power. The first data any approach needs to account for is the adjacency of the MP to the finite verb in matrix clauses but to DPs in embedded clauses. A phonological approach of the MPs can account for the adjacency of the MPs to the finite verb by the assumption that the MPs need a phonological host to incorporate to, similar to clitic pronouns. Such an approach can also account for the linearisation of MPs and pronouns. Both MPs and pronouns need a host to incorporate to, but simultaneously it should be avoided to have a too long string of unstressed syllables. As a consequence thereof the linearisation of any pronoun preceding the MPs is less preferred than a MP preceding a pronoun. Further, it also accounts for why a bisyllabic pronoun preceding a MP is less preferred than a monosyllabic pronoun preceding the MP.

However, the phonological approach cannot answer the question why a DP is not a possible host for incorporation of the MPs in matrix clauses. The adjacency to the verb in matrix clauses, and the position of the MPs in embedded clauses can only be accounted for in a syntactic analysis with the assumption that the MPs *ju* and *väl* are heads that move with the verb in matrix clauses, but surface in their base position in embedded clauses due to the lack of verb movement. These MPs incorporate phonologically into a host, but will syntactically only adjoin to the finite verb when possible, i.e. in matrix clauses with verb movement.

The difference between which element can serve as a phonological host for

a MP compared to pronoun reveals a prominent difference between MPs and all object pronouns undergoing object shift. The movement of the pronoun can be argued to be motivated purely by their phonological properties, as a pronoun can incorporate into any host word, e.g. verb or DP in the middle field. The movement of the MPs must be syntactically motivated, in order to account for the adjacency to a finite verb in matrix clauses.

So far it shows that both the phonological and syntactic approach could account for the ban of *ju* and *väl* from a sentence initial position, but the syntactic analysis has greater explanatory power. Only a syntactic analysis of MPs can account for linearisation of verbs, MPs and DPs in the middle field of matrix clause as well as in embedded clauses. Additionally, in order to account for the linearisation of these MPs and pronouns, not only the syntactic properties of the former, but also the phonological properties of the latter need to be taken into consideration.

**nog and visst** Unlike *ju* and *väl* the MPs *nog* and *visst* do not show any restriction to positions in matrix clauses. They may occur in a sentence initial position. This is expected if their phonological properties are taken into account, as well their syntactic status. Above, I argued that *nog* and *visst* are phrasal elements, and as such they are not banned from a sentence initial position. However, if they are not inherently unstressed elements, they are also expected to be able to occur in a sentence initial position. Even if these MP belong to the category of functional words which may be stressed or unstressed, i.e. may form individual phonological words or incorporate into a host, it is expected that they can occur in a sentence initial position, as this also holds for unstressed pronouns.

In the middle field their position might also follow from their syntactic or phonological status. These MPs do not need to occur adjacent to the finite verb, but both pronouns and DPs can intervene between the verb and the MPs. If they are phrasal elements, they are not able to cliticize onto the verb, but can be preceded by an other phrasal element such as a DP in the middle field. Additionally, if these MPs form independent phonological words, they also do not need to incorporate into any host. Thus, both the phonological and syntactic properties of these MPs can account for their possible positions in the clause, and none of the analyses pose any bigger problems.

Further, both the syntactic and phonological analysis of these MP allow us to distinguish them from sentence adverbs. The syntactic analysis assumed that the MPs are base generated in higher positions in the middle field than the adverbs. As a consequence, they are preceded by DP subjects to a lesser extent than sentence adverb. However, a phonological analysis might have more explanatory power in this aspect: Classifying these MPs as unstressed function words, i.e. words that are unstressed, but stressable, means that they might incorporate into a phonological host, but need not. Sentence adverbs, however, are lexical words and as such always form independent phonological words. These different phonological properties might be used to account for the different linearisation of MPs, sentence adverbs with respect to both pronoun and DPs. A sentence adverb necessarily forms an individual phonological word and can equally well be preceded or followed by a DP. A MP however, is preferably followed by a DP, perhaps as a reflex of a preference of the MP to incorporate into the finite verb when a DP is present in the middle field, i.e. similarly to the preference of weak object pronouns to shift into a middle field position following the finite verb.

The ordering difference all MPs and adverbs display with respect to the linearisation with pronouns seem to be a purely phonological matter, and varies depending on which element, i.e. MP or pronoun are more prone to incorporate into a host. A hierarchy for incorporation might account for the data with pronouns, i.e. first, why MPs *ju* and *väl* are less frequently preceded by pronouns than *nog* and *visst*, and second, why monosyllabic pronouns are more prone to precede MPs than bisyllabic pronouns. This is a tentative explanation to account for difference in linearisation between the MPs in general but also between *nog* and *visst* and sentence adverbs in particular.

Further, comparing the possibilities to account for the properties of MPs in a syntactic and/or phonological account shows that the two types of MPs do indeed differ. On the one hand, the MPs *ju* and *väl* must be regarded to be syntactic heads, and a purely phonological analysis of these MPs cannot account for all their properties. On the other hand, the properties of the MPs *nog* and *visst* can be accounted for equally extensively by a phonological or a syntactic analysis, but perhaps a combination of both is necessary.

## 6.6. Summary

In this chapter I have discussed the possibility that the linearisation of elements in the middle field might depend on phonological properties of these elements and of the prosodic structure of sentences. This possibility is necessary to discuss, as it could offer an account of some of the findings of the experiments presented in chapter 5.

This chapter started with a discussion of phonological properties of pronouns. It showed that pronouns per se are not unstressed or stressed elements. This observation is particularly interesting for the discussion of object shift. It is often claimed that stressed pronouns cannot undergo object shift because of their nature as stressed elements. However, I argued that the pronouns are stressed as a result of their position in the clause. Objects often occur in the sentence final position in Swedish, and this is also the position on which the main sentence stress is expressed. Thus, a pronoun which surfaces following an adverb, will by its position receive stress. This assumption was supported by the observations that object pronouns which follow an adverb are not necessarily stressed if there is additional material in the sentence, e.g. a sentence final PP. At this point it must also be noted, that if the position following the adverb is not necessarily a focus position, as argued in section 6.2.2, then the pronouns following the adverbs are only stressed because they occur at the end of the sentence. This is in line with the results from the experiments with DPs, as they showed that the effect of information structure was not as strong as expected, and that focused DPs were not restricted to a position following the sentence adverbs. This is a further indication that information structure might not affect the linearisation of the middle field as strongly as often assumed, but rather phonology has an effect.

Having discussed phonological properties of object pronouns, I turned to a discussion of potential triggers of *object shift*. This showed that only a phonological analysis, as proposed by Josefsson (2012), can account for object shift to its full extent, as not only stress but also the length of the pronouns affects their ability to occur in the middle field of matrix clauses. Josefsson (2012) argued that unstressed pronouns that undergo object shift do not form individual phonological words, but are phonologically incorporated into host words, i.e. verbs, DPs or adverbs. Such a phonological analysis of object shift

can account for the findings of the experiments, which tested the linearisation of object pronouns with respect to MPs and sentence adverbs. The result showed that the length of the pronoun affected its position with respect to MPs and adverbs.

The results of the experiments in chapter 5 also showed that the two types of MPs and sentence adverbs differ with respect to their linearisation, and these differences cannot be accounted for only by a syntactic analysis. Thus, I turned to a closer investigation of the phonological properties of the MPs. This revealed that it is possible to extend the phonological analysis of pronoun by Josefsson (2012) to the MPs. I argued that the MPs *ju* and *väl* are inherently unstressed elements which cannot form independent phonological words. As a result thereof, they need to incorporate into a host word. The *nog* and *visst* belong to the type of unstressed function words that can carry stress. They might incorporate into a host word when they are unstressed but appear as individual phonological words if stressed. The MPs thus fall into two types but also differ from sentence adverbs by their phonological properties. Combining the phonological analysis of object pronouns with the analysis of MPs allows us to account for the results of the experiments in detail. Unstressed elements as the MPs *ju* and *väl* must incorporate into a host. This is also necessary for pronouns and the MPs *nog* and *visst* when they occur unstressed. However, if they are stressed, they also form individual phonological words, and thus need not incorporate. Sentence adverbs are always stressed, as they carry a lexical accent and thus always form individual phonological words. Depending on both which pronouns combine with which MP, and their phonological statuses, i.e. stressed or not, different orderings will occur. This shows that in order to account for any given linearisation of elements in the middle field, it is important take the phonological properties of all elements into account.

A thorough inspection of the phonological properties of elements in the middle field allows us to account for the linearisation to a great extent. But it also showed that a phonological analysis cannot account for all of the properties of the MPs, most prominently not for the relation between verb movement in matrix clauses and the movement of the MPs *ju* and *väl*, which is a result of their head status. Overall, the discussion shows that in order to account for any ordering in the middle field, syntactic as well as phonological properties of all elements need to be taken into account.



## 7. Conclusion and outlook

The starting point of this work was an initial observation that there are MPs in Swedish. The basis of this observation came from semantics, as previous works, primarily by Aijmer (1996, 1978), argue that the MPs do not operate on the level of the proposition, as sentence adverbs, but rather express speaker attitudes and evidentiality. I elaborated on this semantic description and claimed that there are two distinct types of MPs; the MPs *ju/väl* expressing speaker attitudes (related to commitment and the status of the proposition), and the MPs *nog* and *visst* expressing evidentiality.

Although the MPs are often syntactically classified and analysed as sentence adverbs in formal and descriptive accounts of Swedish, cf. Beijer (2005) and Teleman et al. (1999), further observations found in the literature, cf. Aijmer (1978, 1996), Alm (2012) and Lindström (2008), showed that MPs display some syntactic properties that make them stand out from sentence adverbs. These properties are the same properties that are used to classify elements as MPs in German. Thus it seemed worthwhile to pursue a syntactic analysis of Swedish MPs as distinct from sentence adverbs.

As a starting point for a syntactic analysis, I reviewed the syntactic properties of MPs in German and discussed some analyses of the MPs based on these properties. Inspecting the properties of the rather heterogeneous group MPs in German, it showed that some of the syntactic properties German MPs display, - the inability to carry stress, to be coordinated or modified - do not apply only to MPs, but to some adverbs as well, whereas other properties, such as the inability to form an answer, do not apply to all, but only a subset of the MPs.

The only property that applies to all MPs unanimously in German is their restriction to the middle field. I argued that this also is the only property any syntactic analysis of MPs needs to account for. Having established this, I turned to the discussion of syntactic analyses of German MPs as deficient

phrases by Grosz (2007), Cardinaletti (2011), Coniglio (2011) and the analysis of MPs syntactic heads by Bayer and Obenauer (2011). Even though the lines of argumentation and the results of the analyses differ, and some problems remain unsolved, all analyses account for this property.

Turing to the Swedish MPs, it showed that none of the analysis of the German MPs can be carried over to the Swedish MPs without implementing some changes. The main reason for this is that the restriction to the middle field used to define German MPs, does not apply to all MPs in Swedish. Only the MPs *ju* and *väl* are restricted to this position, whereas *nog* and *visst* are more flexible. Thus, it seems that a division found on the level of semantics is present also on the level of syntax, i.e. the two types of MPs also display different syntactic properties. In order to further distinguish between these two types, I discussed their distribution in the clause in greater detail, i.e. their internal ordering in the middle field as well as their distributional differences in matrix and subordinate clauses. It showed that the MPs *ju* and *väl* are banned from a sentence initial position, and that their position in matrix clauses is dependent on verb movement. The MPs *nog* and *visst* did not show any distributional restrictions, i.e. they can occur in a sentence initial position as well as in the middle field. Based on these observations, I argued that the MPs *ju* and *väl* should be analysed as syntactic heads, whereas *nog* and *visst* are phrasal elements.

From this analysis further predictions about the linearisation of MPs with respect to other elements in the clause follow. If the MPs *ju* and *väl* are syntactic heads that adjoin to the finite verbal head in matrix clauses, then no other elements may intervene between the verb and the MPs. If *nog* and *visst* are phrasal elements, they should not need to appear adjacent to finite verbs. Additionally, the syntactic analysis of the MPs presents an account of how the MPs *ju* and *väl* differ from sentence adverbs, i.e. by differences in their phrasal status. The MPs *nog* and *visst*, being syntactic phrasal elements are more difficult to distinguish from sentence adverbs. However, initial observations of the linearisation of these MPs and sentence adverbs with respect to DPs indicated that there is a difference, i.e. sentence adverbs are claimed to mark an information structural border in the middle field, whereas this does not seem to apply to these MPs. The judgement of differences in linearisation are very subtle, and therefore called for empirical justification. Thus, in a number

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of experiments I tested the linearisation of MPs, DPs, sentence adverbs and object pronouns in the middle field.

The results of the experiments testing the linearisation of DPs, MPs and adverbs showed that the MPs *ju* and *väl* do indeed differ from sentence adverbs as they must appear adjacent to the finite verb, i.e. it is possible to maintain the hypothesis that these MPs are syntactic heads. Further it showed that the MPs *nog* and *visst* also differ from sentence adverbs. The linearisation of a DP preceding a MP was less preferred than the DP preceding a sentence adverb. I argued that this can be viewed as an argument for their syntactic position high in the middle field. The results of these experiments verified my syntactic analysis of the MPs, but they also contribute with additional insight to some topics frequently discussed in the literature on Swedish.

First of all it showed that information structure does not have such a strong effect on the linearisation of elements in the middle field as often assumed. The experiments showed that the distribution of DPs in relation to the MPs as well as in relation to the sentence adverbs did not depend on their information structural status as strongly as expected. Contra analyses by Holmberg (1993) and Svenonius (2001), there is no information structural effect on the positioning of DPs in the middle field with respect to adverbs. Thus, the claim by Holmberg (1999), that the position following the sentence adverb is a focus position, could not be verified. Second, the results of the experiments testing the linearisation of MPs, sentence adverbs and object pronouns indicated that the distribution of elements in the middle field is governed by phonological properties to a greater extent than previously noticed.

The findings of the experiments make a detailed contribution to the discussion of *object shift* in Swedish. It showed that the length of the object pronouns affect their position in relation to adverbs as well as in relation to both types of MPs. These findings are in line with Josefsson (2012) account of object shift as a phonologically motivated movement and is not motivated by information structure. Overall, the results of the experiments support the assumption that phonological properties of the elements affect the linearisation in the middle field to a great extent.

Based on Josefsson's analysis of object pronouns, I further discussed in how far a phonological analysis also could account for the linearisation of MPs in the middle field. It showed that a phonological analysis can account for some

of the properties of the MPs, e.g. it is one property in which the MPs *nog* and *visst* on the one hand and sentence adverbs on the other differ. Other properties, such as the adjacency to the finite verb and the restriction from the sentence initial position for the MPs *ju* and *väl* need to be analysed in a syntactic account.

The discussion of MPs in Swedish has shown the importance to view a problem not only from one perspective, but that it is necessary to consider the division of labour between all levels of linguistics. Not all of the peculiar properties of the MPs are related to their syntactic status, but some are purely phonological.

Further, in order to account for the linearisation of elements of matrix clauses in Swedish, one needs to consider phonological aspects of the utterances and individual words (such as stress and length) just as much as syntactic properties. Variation in word order (such as *object shift*) assumed to be related to syntax or information structure can possibly be accounted for more adequately by phonological analyses of the involved elements. In this work, I showed that a multi-level approach is necessary, but the focus was on a small group of words. In order to further support the analysis presented here, especially the phonological approach to object shift, it would be necessary to also take a detailed look at phonological properties of other elements such as adverbs and verbs. Possible questions are first: do any phonological properties of adverbs have an effect on their position in relation to pronouns? Second: which role do properties of the verbs play in object shift, i.e. is object shift more frequent in combination with different semantic or syntactic types of verbs or verbs of a certain phonological structure? Further, any analysis of phonological effects on the linearisation of elements in the clause needs to be extended to also include a discussion about the overall effect of prosody of the sentence. This last aspect has only been touched upon in this work, but calls for a closer inspection.

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# A. Appendix

## A.1. Experiment 1: given or new DPs and ju/väl

In the following presentation of items, the contexts are given in (a): example (i) represents the context in which the DP is given, (ii) the context in which the DP is new. The targets with an MP are presented in (b), and the target with a sentence adverb in (c).

(1) a. *Context*

- i. *Ingen av kollegorna svarar i telefon.*  
none of colleagues.DEF answer in telephone  
None of the colleagues answer the telephone.
- ii. *Det är tomt på kontoret.*  
it is empty on office.DEF  
It is empty in the office.

b. *Target MP*

- i. *På förmiddagarna sitter ju kollegorna i möten.*  
on fore middays.DEF sit JU colleagues.DEF in meetings
- ii. *På förmiddagarna sitter kollegorna ju i möten.*  
on fore middays.DEF sit colleagues.DEF JU in meetings  
Before noon, the colleagues are in meetings.

c. *Target Adverb*

- i. *På förmiddagarna sitter tyvärr kollegorna i möten.*  
on fore middays.DEF sit unfortunately colleagues.DEF in meetings  
meetings
- ii. *På förmiddagarna sitter kollegorna tyvärr i möten.*  
on fore middays.DEF sit colleagues.DEF unfortunately in meetings  
meetings  
Before noon, the colleagues unfortunately are in meetings.

(2) a. *Context*

- i. *Man ser inte många renar här i dalen den här tiden på året.*  
 one sees not many reindeer here in valley.DEF this here time.DEF on year.DEF

One does not see many reindeer here in the valley at this time of the year.

- ii. *Det är ganska öde här i dalen den här tiden på året.*  
 it is quite deserted here in valley.DEF this here time.DEF on year.DEF

It is quite deserted here in the valley at this time of the year.

b. *Target MP*

- i. *På våren vandrar ju renarna upp på kalffället.*  
 on spring migrate JU reindeer.DEF up on mountain.DEF

- ii. *På våren vandrar renarna ju upp på kalffället.*  
 on spring migrate reindeer.DEF JU up on mountain.DEF  
 In the spring the reindeer migrate up into the mountains.

c. *Target Adverb*

- i. *På våren vandrar givetvis renarna upp på kalffället.*  
 on spring migrate of course reindeer.DEF up on mountain.DEF

- ii. *På våren vandrar renarna givetvis upp på kalffället.*  
 on spring migrate reindeer.DEF of course up on mountain.DEF  
 In the spring the reindeer of course migrate up into the mountains.

(3) a. *Context*

- i. *Björnen i djurparken är inte vaken hela året runt.*  
 bear.DEF in zoo.DEF is not awake whole year around  
 The bear in the zoo is not awake the whole year around.

- ii. *Så här års är det lugnt i djurparken.*  
 so here year.POSS is it calm in zoo.DEF  
 It is quite peaceful at the zoo at this time of the year.

b. *Target MP*

- i. *På vintern sover ju björnen i sitt ide.*  
 on winter.DEF sleep JU bear.DEF in its den

- ii. *På vintern sover björnen ju i sitt ide.*  
 on winter.DEF sleeps bear.DEF JU in its den  
 In the winter the bear sleeps in its den.

c. *Target Adverb*



- i. *På vintern sover förstås björnen i sitt ide.*  
on winter.DEF sleeps of course bear.DEF in its den
- ii. *På vintern sover björnen förstås i sitt ide.*  
on winter.DEF sleeps bear.DEF of course in its den  
In the winter the bear of course sleeps in its den.

(4) a. *Context*

- i. *När temperaturen sjunker ser man inga hästar här ute.*  
when temperature.DEF sinks sees one no horses here outside  
When the temperature sinks, one does not see any horses outside here.
- ii. *När temperaturen sjunker tar grannen in sina djur.*  
when temperature.DEF sinks takes neighbour.DEF in POSS  
animal  
When the temperature sinks the neighbour brings his animal in-doors.

b. *Target MP*

- i. *På vintern står väl hästarna i stallet.*  
on winter stand VÄL horses.DEF in stable.DEF
- ii. *På vintern står hästarna väl i stallet.*  
on winter stand horses.DEF VÄL in stable.DEF  
In the winter, the horses stand in the stable.

c. *Target Adverb*

- i. *På vintern står säkert hästarna i stallet.*  
on winter stand surely horses.DEF in stable.DEF
- ii. *På vintern står hästarna säkert i stallet.*  
on winter stand horses.DEF surely in stable.DEF  
In the winter, the horses surely stand in the stable.

(5) a. *Context*

- i. *Vinterbadarna behöver inte frysa länge.*  
winter swimmers.DEF must not freeze long  
The winter swimmers must not freeze for a long time.
- ii. *Ett dopp i kylan stärker immunförsvaret men kylv  
inte ner för mycket.*  
a bathe in cold.DEF strengthens immune system.DEF but cools  
not down to much  
A bathe in the cold strengthens the immune system but does not cool down too much.

b. *Target MP*

- i. *Efter doppet bastar ju vinterbadarna i*  
 After bath.DEF take a sauna JU winter swimmers.DEF in  
*badhuset.*  
 bathhouse.DEF
- ii. *Efter doppet bastar vinterbadarna ju i*  
 After bath.DEF take a sauna winter swimmers.DEF JU in  
*badhuset.*  
 bathhouse.DEF  
 After the bath the winter swimmers take a sauna in the bathhouse.

c. *Target Adverb*

- i. *Efter doppet bastar självfallet vinterbadarna i*  
 After bath.DEF take a sauna of course winter swimmers.DEF in  
*badhuset.*  
 bathhouse.DEF
- ii. *Efter doppet bastar vinterbadarna självfallet i*  
 After bath.DEF take a sauna winter swimmers.DEF of course in  
*badhuset.*  
 bathhouse.DEF  
 After the bath the winter swimmers of course take a sauna in the  
 bathhouse.

(6) a. *Context*

- i. *Om man av misstag köpt hem omogen avocado kan man*  
 if one by mistake bought home unripe avocado can one  
*lägga den mörkt.*  
 put it dark  
 If one has bought home unripe avocado by mistake, one can put it  
 in a dark place.
- ii. *Gammalt tidningspapper kan komma till nytta i köket.*  
 old newspaper can come to use in kitchen.DEF  
 Old newspaper can be of use in the kitchen.

b. *Target MP*

- i. *Inrullad i tidningspapper mognar ju avocadon på nolltid.*  
 wrapped in newspaper ripens JU avocado.DEF on no time
- ii. *Inrullad i tidningspapper mognar avocadon ju på nolltid.*  
 wrapped in newspaper ripens avocado.DEF JU on no time  
 Wrapped in newspaper the avocado ripens in no time.

c. *Target Adverb*

- i. *Inrullad i tidningspapper mognar uppenbarligen avocadon på*  
 wrapped in newspaper ripens obviously avocado.DEF on  
*nolltid.*  
 no time
  - ii. *Inrullad i tidningspapper mognar avocadon uppenbarligen på*  
 wrapped in newspaper ripens avocado.DEF obviously on  
*nolltid.*  
 no time
- Wrapped in newspaper the avocado obviously ripens in no time.

(7) a. *Context*

- i. *Pensionärsföreningen åker gärna bort och lämnar*  
 senior citizen club.DEF goes gladly away and leaves  
*vinterkylan.*  
 winter cold.DEF  
 The senior citizen club gladly goes abroad and leaves the winter cold  
 behind.
- ii. *En resa till solen är alltid trevlig.*  
 a trip to sun.DEF is always nice  
 A trip to a sunny region is always nice.

b. *Target MP*

- i. *I vinter reser väl pensionärsföreningen till Spanien.*  
 in winter travels VÄL senior citizen club.DEF to Spain
- ii. *I vinter reser pensionärsföreningen väl till Spanien.*  
 in winter travels senior citizen club.DEF VÄL to Spain  
 This winter, the senior citizen club will travel to Spain.

c. *Target Adverb*

- i. *I vinter reser förhoppningsvis pensionärsföreningen till*  
 in winter travels hopefully senior citizen club.DEF to  
*Spanien.*  
 Spain
- ii. *I vinter reser pensionärsföreningen förhoppningsvis till*  
 in winter travels senior citizen club.DEF hopefully to  
*Spanien.*  
 Spain  
 This winter, the senior citizen club hopefully will travel to Spain.

(8) a. *Context*

- i. *Skidlandslaget får ofta resa långt för att hitta de*  
 national ski team.DEF may often travel far for to find the

*bästa träningsmöjligheterna.*  
 best practice conditions.DEF

The national ski team must often travel far in order to find the best conditions for practice.

- ii. *Det är ofta ont om snö i de svenska fjällen innan säsongen kommit igång.*  
 it is often short of snow in the Swedish mountains.DEF before season.DEF come start

There is often a shortage of snow in the Swedish mountains before the beginning of the (winter) season.

b. *Target MP*

- i. *I höst tränar väl skidlandslaget i Alperna.*  
 in autumn practice VÄL national ski team.DEF in Alps.DEF
- ii. *I höst tränar skidlandslaget väl i Alperna.*  
 in autumn practice national ski team.DEF VÄL in Alps.DEF  
 This autumn the national ski team practices in the Alps.

c. *Target Adverb*

- i. *I höst tränar troligtvis skidlandslaget i Alperna.*  
 in autumn practice probably national ski team.DEF in Alps.DEF
- ii. *I höst tränar skidlandslaget troligtvis i Alperna.*  
 in autumn practice national ski team.DEF probably in Alps.DEF  
 This autumn the national ski team probably practices in the Alps.

(9) a. *Context*

- i. *I år behöver vi inte passa barnen så noga när de badar vid bryggan.*  
 in year need we not look after children.DEF so carefully when they bathe by bathing platform.DEF  
 This year we do not need to look after the children so carefully when they swim by the bathing platform.
- ii. *Sommaren har varit så torr hittills att vattenståndet är lågt vid bryggan.*  
 summer.DEF has been so dry to now that water levels.DEF are low by bathing platform.DEF  
 The summer has been so dry up until now that the water levels are low by the bathing platform.

b. *Target MP*

- i. *Nu bottnar väl barnen i sjön.*  
 now reach the bottom VÄL children.DEF in lake.DEF

- ii. *Nu bottnar barnen väl i sjön.*  
 now reach the bottom children.DEF VÄL in lake.DEF  
 Now the children are able to reach the bottom of the lake.

c. *Target Adverb*

- i. *Nu bottnar kanske barnen i sjön.*  
 now reach the bottom perhaps children.DEF in lake.DEF  
 Now the children are perhaps able to reach the bottom of the lake.
- ii. *Nu bottnar barnen kanske i sjön.*  
 now reach the bottom children.DEF perhaps in lake.DEF  
 Now the children are perhaps able to reach the bottom of the lake.

(10) a. *Context*

- i. *Högstadiets skolkör övar flitigt på sommarsångerna.*  
 high school.POSS choir practice diligently on summer songs.DEF  
 The high school choir practices the summer songs diligently.
- ii. *Högstadiets skolaslutningen är ofta väldigt fin*  
 high school.POSS last day of school.DEF is often very nice  
 The last day of school of the high school is often very nice.

b. *Target MP*

- i. *På skolaslutningen sjunger väl skolkören i kyrkan.*  
 on last day of school.DEF sings VÄL school choir.DEF in church.DEF  
 On the last day of school, the school choir sings in the church.
- ii. *På skolaslutningen sjunger skolkören väl i kyrkan.*  
 on last day of school.DEF sings school choir.DEF VÄL in church.DEF  
 On the last day of school, the school choir sings in the church.

c. *Target Adverb*

- i. *På skolaslutningen sjunger naturligtvis skolkören i kyrkan.*  
 on last day of school.DEF sings of course school choir.DEF in church.DEF  
 On the last day of school, the school choir of course sings in the church.
- ii. *På skolaslutningen sjunger skolkören naturligtvis i kyrkan.*  
 on last day of school.DEF sings school choir.DEF of course in church.DEF  
 On the last day of school, the school choir of course sings in the church.

(11) a. *Context*

- i. *På vardagarna pluggar studenterna på biblioteket i Lund,*  
on week days.DEF study students.DEF on library.DEF in Lund  
*men på helgerna är det stängt.*  
but on weekend.DEF is it closed  
On the week days the students study at the library in Lund but on  
the weekends is closed.
- ii. *På helgerna har biblioteket i Lund stängt.*  
on weekend.DEF has library.DEF in Lund closed  
On the weekends the library in Lund is closed.

b. *Target MP*

- i. *Då pluggar väl studenterna hemma.*  
then study VÄL students.DEF home
- ii. *Då pluggar studenterna väl hemma.*  
then study students.DEF VÄL home  
The students study at home then.

c. *Target Adverb*

- i. *Då pluggar garanterat studenterna hemma.*  
then study surely students.DEF home
- ii. *Då pluggar studenterna garanterat hemma.*  
then study students.DEF surely home  
The students surely study at home then.

(12) a. *Context*

- i. *Barnets sommarlov är ofta fullt av aktiviteter.*  
child.DEF.POSS summer break is often full of activities  
The child's summer break is usually crammed with activities.
- ii. *Föräldrarna måste ofta jobba på sommaren.*  
parents.DEF must often work on summer.DEF  
The parents must often work in the summer time.

b. *Target MP*

- i. *Då åker ju barnet på sommarläger.*  
then go JU child.DEF on summer camp
- ii. *Då åker barnet ju på sommarläger.*  
then go child.DEF JU on summer camp  
Then the child goes on summer camp.

c. *Target Adverb*

- i. *Då åker möjligtvis barnet på sommarläger.*  
then go possibly child.DEF on summer camp

- ii. *Då åker barnet möjligtvis på sommarläger.*  
 then go child.DEF possibly on summer camp  
 Then the child possibly goes on summer camp.

(13) a. *Context*

- i. *Eleverna ser alltid fram emot sina balettlektioner.*  
 students.DEF see always forward to POSS ballet classes.DEF  
 The students always look forward to their ballet classes.
- ii. *Man behöver mycket plats när man dansar balett.*  
 one needs much space when one dances ballet.  
 One needs a lot of space when one dances ballet.

b. *Target MP*

- i. *Då dansar ju eleverna i den stora salen.*  
 Then dance JU students.DEF in the big studio.DEF
- ii. *Då dansar eleverna ju i den stora salen.*  
 Then dance students.DEF JU in the big studio.DEF  
 The students dance in the big studio then.

c. *Target Adverb*

- i. *Då dansar självklart eleverna i den stora salen.*  
 Then dance of course students.DEF in the big studio.DEF
- ii. *Då dansar eleverna självklart i den stora salen.*  
 Then dance students.DEF of course in the big studio.DEF  
 The students of course dance in the big studio then.

(14) a. *Context*

- i. *De flesta studenterna i klassen fick bra betyg i matte.*  
 the most students.DEF in class.DEF received good grades in math  
 Most of the students in the class received good grades in math.
- ii. *Betygen i matte var oväntat höga i klass 7a.*  
 grades in math were surprisingly high in class.DEF 7a  
 The grades in math were surprisingly high in class 7a.

b. *Target MP*

- i. *Denna terminen fuskade väl studenterna på slutprovet.*  
 this term.DEF cheated VÄL students.DEF at final exam.DEF
- ii. *Denna terminen fuskade studenterna väl på slutprovet.*  
 this term.DEF cheated students.DEF VÄL at final exam.DEF  
 This term the students cheated on their final exam.

c. *Target Adverb*

- i. *Denna terminen fuskade onekligen studenterna på*  
this term.DEF cheated undeniably students.DEF at  
*slutprovet.*  
final exam.DEF
- ii. *Denna terminen fuskade studenterna onekligen på*  
this term.DEF cheated students.DEF undeniably at  
*slutprovet.*  
final exam.DEF  
This term the students undeniably cheated on their final exam.

(15) a. *Context*

- i. *Mamman brukar hämta sin yngsta son kl 17.*  
mother.DEF usually pick up her youngest son o'clock 17  
The mother usually picks up her youngest son at 17 o'clock.
- ii. *Det yngsta barnet måste hämtas varje dag klockan 17.*  
the youngest child.DEF must pick up.PASS each day o'clock 17  
The youngest child must be picked up at 17 o'clock each day.

b. *Target MP*

- i. *Efter jobbet skyndar väl mamman till dagiset.*  
after work hurries VÄL mother.DEF to kinder garden.DEF
- ii. *Efter jobbet skyndar mamman väl till dagiset.*  
after work hurries mother.DEF VÄL to kinder garden.DEF  
After work the mother hurries to the kinder garden.

c. *Target Adverb*

- i. *Efter jobbet skyndar verkligen mamman till dagiset.*  
after work hurries really mother.DEF to kinder garden.DEF
- ii. *Efter jobbet skyndar mamman verkligen till dagiset.*  
after work hurries mother.DEF really to kinder garden.DEF  
After work the mother really hurries to the kinder garden.

(16) a. *Context*

- i. *Akrobaterna förbereder sig noga inför uppträdandena.*  
acrobats.DEF prepare REFLX carefully before shows.DEF  
The acrobats prepare themselves carefully before shows.
- ii. *Det är viktigt att värma upp inför cirkusföreställningarna.*  
it is important to warm up before circus shows.DEF  
It is important to warm up before the circus shows.

b. *Target MP*



i. *Precis innan föreställningen övar ju akrobaterna i*  
just before show.DEF practice JU acrobats.DEF on  
*manegen.*  
stage.DEF

ii. *Precis innan föreställningen övar akrobaterna ju i*  
just before show.DEF practice acrobats.DEF JU on  
*manegen.*  
stage.DEF

Just before the show the acrobats practice on stage.

c. *Target Adverb*

i. *Precis innan föreställningen övar förmodligen akrobaterna*  
just before show.DEF practice probably acrobats.DEF  
*i manegen.*  
on stage.DEF

ii. *Precis innan föreställningen övar akrobaterna förmodligen*  
just before show.DEF practice acrobats.DEF probably  
*i manegen.*  
on stage.DEF

Just before the show the acrobats probably practice on stage.

(17) a. *Context*

i. *Arbetarna på pappersbruket har sällan ledigt.*  
workers.DEF on paper factory.DEF have rarely off  
The workers at the paper factory rarely have a day off.

ii. *På pappersbruket jobbas det dygnet runt.*  
on paper factory.DEF works.PASS it day round  
At the paper factory work is done 24/7.

b. *Target MP*

i. *Där jobbar väl arbetarna på helgerna.*  
there work VÄL workers.DEF on weekends.DEF

ii. *Där jobbar arbetarna väl på helgerna.*  
there work workers.DEF VÄL on weekends.DEF  
There the workers work on the weekends.

c. *Target Adverb*

i. *Där jobbar bevisligen arbetarna på helgerna.*  
there work evidently workers.DEF on weekends.DEF

ii. *Där jobbar arbetarna bevisligen på helgerna.*  
there work workers.DEF evidently on weekends.DEF  
There the workers evidently work on the weekends.

(18) a. *Context*

- i. *Efter maratontävlingen i denna värmen behöver*  
 After marathon.DEF in this heat need  
*deltagarna hämta kraft igen.*  
 participants.DEF get strength again  
 After the marathon in this heat the participants need to regain strength.
- ii. *Efter maratontävlingen i denna värmen behöver kroppen*  
 After marathon.DEF in this heat need body.DEF  
*återhämta sig.*  
 regenerate REFL  
 After the marathon in this heat the body needs to regenerate.

b. *Target MP*

- i. *Efter loppet vilar ju deltagarna i 24 timmar.*  
 after run.DEF rest JU participants.DEF in 24 hours
- ii. *Efter loppet vilar deltagarna ju i 24 timmar.*  
 after run.DEF rest participants.DEF JU in 24 hours  
 After the run, the participants rest for 24 hours.

c. *Target Adverb*

- i. *Efter loppet vilar faktiskt deltagarna i 24 timmar.*  
 after run.DEF rest actually participants.DEF in 24 hours
- ii. *Efter loppet vilar deltagarna faktiskt i 24 timmar.*  
 after run.DEF rest participants.DEF actually in 24 hours  
 After the run, the participants actually rest for 24 hours.

(19) a. *Context*

- i. *Grannarna planerar sin sommarsemester.*  
 neighbours.DEF plan POSS summer holiday  
 The neighbours plan their summer holiday.
- ii. *Nu är det dags att planera inför semestern.*  
 now is it time to plan before summer holiday.DEF  
 Now it is time to plan the summer holiday.

b. *Target MP*

- i. *I år bilar väl grannarna till Norge.*  
 in year go by car VÄL neighbours.DEF to Norway
- ii. *I år bilar grannarna väl till Norge.*  
 in year go by car neighbours.DEF VÄL to Norway  
 This year, the neighbours will drive to Norway.

c. *Target Adverb*

- i. *I år bilar möjligen grannarna till Norge.*  
in year go by car possibly neighbours.DEF to Norway
- ii. *I år bilar grannarna möjligen till Norge.*  
in year go by car neighbours.DEF possibly to Norway  
This year, the neighbours will possibly drive to Norway.

(20) a. *Context*

- i. *Försäljaren lyckades inte meddela kunden att han*  
sales man.DEF manage not inform costumer.DEF that he  
*blir sen till mötet.*  
become late to meeting.DEF  
The salesman did not manage to inform the costumer that he would  
be late to the meeting.
- ii. *Försäljaren försenar sig till mötet.*  
sales man.DEF late REFLX to meeting.DEF  
The salesman will be late to the meeting.

b. *Target MP*

- i. *Nu väntar väl kunden i receptionen.*  
now waits VÄL costumer.DEF in front desk.DEF
- ii. *Nu väntar kunden väl i receptionen.*  
now waits costumer.DEF VÄL in front desk.DEF  
Now the costumer waits by the front desk.

c. *Target Adverb*

- i. *Nu väntar säkerligen kunden i receptionen.*  
now waits surely costumer.DEF in front desk.DEF
- ii. *Nu väntar kunden säkerligen i receptionen.*  
now waits costumer.DEF surely in front desk.DEF  
Now the costumer surely waits by the front desk.

(21) a. *Context*

- i. *Laget är inte nöjt med träningsförutsättningarna.*  
team.DEF is not pleased with training conditions.DEF  
The team is not pleased with the training conditions.
- ii. *Träningen blir mer ansträngande i år än vanligtvis.*  
training.DEF become more strenuous in year than usually  
The practice will be more strenuous this year than it usually is.

b. *Target MP*

i. *Denna säsongen tränar ju laget på konstgräs.*  
 this season.DEF play JU team.DEF on artificial turf

ii. *Denna säsongen tränar laget ju på konstgräs.*  
 this season.DEF play team.DEF JU on artificial turf  
 This season the team plays on artificial turf.

c. *Target Adverb*

i. *Denna säsongen tränar troligen laget på konstgräs.*  
 this season.DEF play probably team.DEF on artificial turf

ii. *Denna säsongen tränar laget troligen på konstgräs.*  
 this season.DEF play team.DEF probably on artificial turf  
 This season the team probably plays on artificial turf.

(22) a. *Context*

i. *Musikern sitter ofta vid pianot.*  
 musician.DEF sits often by piano.DEF  
 The musician often sits by the piano.

ii. *Inne i arbetsrummet står det ett piano.*  
 in in study.DEF stands it a piano  
 In the study there is a piano.

b. *Target MP*

i. *Vid det komponerar väl musikern hela dagarna.*  
 by it composes VÄL musician.DEF whole days.DEF

ii. *Vid det komponerar musikern väl hela dagarna.*  
 by it composes musician.DEF VÄL whole days.DEF  
 At it the musician (sits and) composes the whole days.

c. *Target Adverb*

i. *Vid det komponerar antagligen musikern hela dagarna.*  
 by it composes probably musician.DEF whole days.DEF

ii. *Vid det komponerar musikern antagligen hela dagarna.*  
 by it composes musician.DEF probably whole days.DEF  
 At it the musician (sits and) composes the whole days.

(23) a. *Context*

i. *Ungdomarna i klass 9B kan inte koncentrera sig på undervisningen.*  
 youngsters.DEF in class 9B can not focus REFL on  
 lecture.DEF

The youngsters in class 9B cannot focus on the lecture.

- ii. *Det är svårt att koncentrera sig på undervisningen i klass*  
it is difficult to focus REFL on teaching.DEF in class  
9B.  
9B

It is difficult to focus on the lecture in class 9B.

b. *Target MP*

- i. *På lektionerna pratar ju ungdomarna hela tiden.*  
on classes.DEF talk JU youngsters.DEF whole time.  
During the classes the youngsters talk the entire time.
- ii. *På lektionerna pratar ungdomarna ju hela tiden.*  
on classes.DEF talk youngsters.DEF JU whole time.  
During the classes the youngsters talk the entire time.

c. *Target Adverb*

- i. *På lektionerna pratar tydligen ungdomarna hela tiden.*  
on classes.DEF talk maybe youngsters.DEF whole time.
- ii. *På lektionerna pratar ungdomarna tydligen hela tiden.*  
on classes.DEF talk youngsters.DEF maybe whole time.  
During the classes the youngsters maybe talk the entire time.

(24) a. *Context*

- i. *Mannen är sällan hemma på helgen.*  
husband.DEF i rarely home on weekend.DEF  
The husband is rarely at home on the weekend.
- ii. *Det är ingen hemma idag.*  
it is nobody home today  
Today nobody is at home.

b. *Target MP*

- i. *På söndagar åker ju mannen till travet.*  
On Sundays.DEF go JU husband.DEF to harness racing.DEF
- ii. *På söndagar åker mannen ju till travet.*  
On Sundays.DEF go husband.DEF JU to harness racing.DEF  
On Sundays the husband goes to the horse racing.

c. *Target Adverb*

- i. *På söndagar åker sannolikt mannen till*  
On Sundays.DEF go probably husband.DEF to  
travet.  
harness racing.DEF

- ii. *På söndagar åker mannen sannolikt till travet.*  
 On Sundays.DEF go husband.DEF probably to harness racing.DEF  
 On Sundays the husband probably goes to the horse racing.

## A.2. Experiment 2: given or new DPs and nog/visst

In the following presentation of items, the contexts are given in (a): example (i) represents the context in which the DP is given, (ii) the context in which the DP is new. The targets with an MP are presented in (b), and the target with a sentence adverb in (c).

(1) a. *Context*

- i. *Ingen av kollegorna svarar i telefon.*  
 none of colleagues.DEF answer in telephone  
 None of the colleagues answer the telephone.
- ii. *Det är tomt på kontoret.*  
 it is empty on office.DEF  
 It is empty in the office.

b. *Target MP*

- i. *På förmiddagarna sitter nog kollegorna i möten.*  
 on fore middays.DEF sit NOG colleagues.DEF in meetings
- ii. *På förmiddagarna sitter kollegorna nog i möten.*  
 on fore middays.DEF sit colleagues.DEF NOG in meetings  
 Before noon, the colleagues are in meetings.

c. *Target Adverb*

- i. *På förmiddagarna sitter antagligen kollegorna i möten.*  
 on fore middays.DEF sit probably colleagues.DEF in meetings
- ii. *På förmiddagarna sitter kollegorna antagligen i möten.*  
 on fore middays.DEF sit colleagues.DEF probably in meetings  
 Before noon, the colleagues probably are in meetings.

(2) a. *Context*

- i. *Man ser inte många renar här i dalen den här tiden på året.*  
 one sees not many reindeer here in valley.DEF this here time.DEF on year.DEF

One does not see many reindeer here in the valley at this time of the year.

- ii. *Det är ganska öde här i dalen den här tiden på året.*  
 it is quite deserted here in valley.DEF this here time.DEF on year.DEF

It is quite deserted here in the valley at this time of the year.

b. *Target MP*

- i. *På våren vandrar nog renarna upp på kalffället.*  
 on spring migrate NOG reindeer.DEF up on mountain.DEF
- ii. *På våren vandrar renarna nog upp på kalffället.*  
 on spring migrate reindeer.DEF NOG up on mountain.DEF  
 In the spring the reindeer migrate up into the mountains.

c. *Target Adverb*

- i. *På våren vandrar troligtvis renarna upp på kalffället.*  
 on spring migrate possibly reindeer.DEF up on mountain.DEF
- ii. *På våren vandrar renarna troligtvis upp på kalffället.*  
 on spring migrate reindeer.DEF possibly up on mountain.DEF  
 In the spring the reindeer possibly migrate up into the mountains.

(3) a. *Context*

- i. *Björnen i djurparken är inte vaken hela året runt.*  
 bear.DEF in zoo.DEF is not awake whole year around  
 The bear in the zoo is not awake the whole year around.
- ii. *Så här års är det lugnt i djurparken.*  
 so here year.POSS is it calm in zoo.DEF  
 It is quite peaceful at the zoo at this time of the year.

b. *Traget MP*

- i. *På vintern sover nog björnen i sitt ide.*  
 on winter.DEF sleep NOG bear.DEF in its den
- ii. *På vintern sover björnen nog i sitt ide.*  
 on winter.DEF sleeps bear.DEF NOG in its den  
 In the winter the bear sleeps in its den.

c. *Traget Adverb*

- i. *På vintern sover naturligtvis björnen i sitt ide.*  
 on winter.DEF sleeps of course bear.DEF in its den
- ii. *På vintern sover björnen naturligtvis i sitt ide.*  
 on winter.DEF sleeps bear.DEF of course in its den

In the winter the bear of course sleeps in its den.

(4) a. *Context*

- i. *När temperaturen sjunker ser man inga hästar här ute.*  
when temperature.DEF sinks sees one no horses here outside  
When the temperature sinks, one does not see any horses outside here.
- ii. *När temperaturen sjunker tar grannen in sina djur.*  
when temperature.DEF sinks takes neighbour.DEF in POSS animal  
When the temperature sinks, the neighbour brings his animal indoors.

b. *Target MP*

- i. *På vintern står visst hästarna i stallet.*  
On winter stand VISST horses.DEF in stable.DEF
- ii. *På vintern står hästarna visst i stallet.*  
On winter stand horses.DEF VISST in stable.DEF  
In the winter, the horses stand in the stable.

c. *Target Adverb*

- i. *På vintern står uppenbarligen hästarna i stallet.*  
On winter stand obviously horses.DEF in stable.DEF
- ii. *På vintern står hästarna uppenbarligen i stallet.*  
On winter stand horses.DEF obviously in stable.DEF  
In the winter, the horses obviously stand in the stable.

(5) a. *Context*

- i. *Vinterbadarna behöver inte frysa länge.*  
winter swimmers.DEF must not freeze long  
The winter swimmers must not freeze for a long time.
- ii. *Ett dopp i kylan stärker immunförsvaret men kyler inte ner för mycket.*  
a bathe in cold.DEF strengthens immune system.DEF but cools not down to much  
A bathe in the cold strengthens the immune system but does not cool down too much.

b. *Target MP*



- i. *Efter doppet bastar visst vinterbadarna i*  
 after bath.DEF take a sauna VISST winter swimmers.DEF in  
*badhuset.*  
 bathhouse.DEF
  - ii. *Efter doppet bastar vinterbadarna visst i*  
 after bath.DEF take a sauna winter swimmers.DEF VISST in  
*badhuset.*  
 bathhouse.DEF
- After the bath, the winter swimmers take a sauna in the bathhouse.

c. *Target Adverb*

- i. *Efter doppet bastar säkerligen vinterbadarna i*  
 after bath.DEF take a sauna surely winter swimmers.DEF in  
*badhuset.*  
 bathhouse.DEF
  - ii. *Efter doppet bastar vinterbadarna säkerligen i*  
 after bath.DEF take a sauna winter swimmers.DEF surely in  
*badhuset.*  
 bathhouse.DEF
- After the bath, the winter swimmers surely take a sauna in the bathhouse.

(6) a. *Context*

- i. *Om man av misstag köpt hem omogen avocado kan man*  
 if one by mistake bought home unripe avocado can one  
*lägga den mörkt.*  
 put it dark  
 If one has bought home unripe avocado by mistake, one can put it  
 in a dark place.
- ii. *Gammalt tidningspapper kan komma till nytta i köket.*  
 old newspaper can come to use in kitchen.DEF  
 Old newspaper can be of use in the kitchen.

b. *Target MP*

- i. *Inrullad i tidningspapper mognar visst avocadon på nolltid.*  
 wrapped in newspaper ripens VISST avocado.DEF on no time
- ii. *Inrullad i tidningspapper mognar avocadon visst på nolltid.*  
 wrapped in newspaper ripens avocado.DEF VISST on no time

Wrapped in newspaper the avocado ripens in no time.

c. *Target Adverb*

- i. *Inrullad i tidningspapper mognar tydligen avocadon på  
wrapped in newspaper ripens obviously avocado.DEF on  
nolltid.  
no time*
- ii. *Inrullad i tidningspapper mognar avocadon tydligen på  
wrapped in newspaper ripens avocado.DEF obviously on  
nolltid.  
no time*  
 Wrapped in newspaper the avocado obviously ripens in no time.

(7) a. *Context*

- i. *Pensionärsföreningen åker gärna bort och lämnar  
senior citizen club.DEF goes gladly away and leaves  
vinterkylan.  
winter cold.DEF*  
 The senior citizen club gladly goes abroad and leaves the winter cold behind.
- ii. *En resa till solen är alltid trevlig.  
a trip to sun.DEF is always nice*  
 A trip to a sunny region is always nice.

b. *Target MP*

- i. *I vinter reser nog pensionärsföreningen till Spanien.  
in winter travels NOG senior citizen club.DEF to Spain*
- ii. *I vinter reser pensionärsföreningen nog till Spanien.  
in winter travels senior citizen club.DEF NOG to Spain*  
 This winter, the senior citizen club will travel to Spain.

c. *Target Adverb*

- i. *I vinter reser troligen pensionärsföreningen till Spanien.  
in winter travels probably senior citizen club.DEF to Spain*
- ii. *I vinter reser pensionärsföreningen troligen till Spanien.  
in winter travels senior citizen club.DEF probably to Spain*  
 This winter, the senior citizen club probably will travel to Spain.

(8) a. *Context*

- i. *Skidlandslaget får ofta resa långt för att hitta de  
national ski team.DEF may often travel far for to find the  
bästa träningsmöjligheterna.  
best practice conditions.DEF*

The national ski team must often travel far in order to find the best conditions for practice.

- ii. *Det är ofta ont om snö i de svenska fjällen innan*  
it is often short of snow in the Swedish mountains.DEF before  
*säsongen kommit igång.*  
season.DEF come start.

There is often a shortage of snow in the Swedish mountains before the beginning of the (winter) season.

b. *Target MP*

- i. *I höst tränar visst skidlandslaget i Alperna.*  
in autumn practice VISST national ski team.DEF in Alps.DEF
- ii. *I höst tränar skidlandslaget visst i Alperna.*  
in autumn practice national ski team.DEF VISST in Alps.DEF  
This autumn the national ski team practice in the Alps.

c. *Target Adverb*

- i. *I höst tränar möjligen skidlandslaget i Alperna.*  
in autumn practice possibly national ski team.DEF in Alps.DEF
- ii. *I höst tränar skidlandslaget möjligen i Alperna.*  
in autumn practice national ski team.DEF possibly in Alps.DEF  
This autumn the national ski team possibly practice in the Alps.

(9) a. *Context*

- i. *I år behöver vi inte passa barnen så noga när*  
in year need we not look after children.DEF so carefully when  
*de badar vid bryggan.*  
they bathe by bathing platform.DEF  
This year we do not need to look after the children so carefully when they swim by the bathing platform.
- ii. *Sommaren har varit så torr hittills att vattenståndet är*  
summer.DEF has been so dry to now that water levels.DEF are  
*lågt vid bryggan.*  
low by bathing platform.DEF  
The summer has been so dry up until now that the water levels are low by the bathing platform.

b. *Target MP*

- i. *Nu bottnar nog barnen i sjön.*  
now reach the bottom NOG children.DEF in lake.DEF
- ii. *Nu bottnar barnen nog i sjön.*  
now reach the bottom children.DEF NOG in lake.DEF

Now the children are able to reach the bottom of the lake.

c. *Target Adverb*

- i. *Nu bottnar förhoppningsvis barnen i sjön.*  
now reach the bottom hopefully children.DEF in lake.DEF
- ii. *Nu bottnar barnen förhoppningsvis i sjön.*  
now reach the bottom children.DEF hopefully in lake.DEF  
Now the children are hopefully able to reach the bottom of the lake.

(10) a. *Context*

- i. *Högstadiets skolkör övar flitigt på sommarsångerna.*  
high school.POSS choir practice diligently on summer songs.DEF  
The high school choir practices the summer songs diligently.
- ii. *Högstadiets skolaslutningen är ofta väldigt fin*  
high school.POSS last day of school is often very nice  
The last day of school at the high school is often very nice.

b. *Target MP*

- i. *På skolaslutningen sjunger nog skolkören i kyrkan.*  
on last day of school.DEF sings NOG school choir.DEF in church.DEF
- ii. *På skolaslutningen sjunger skolkören nog i kyrkan.*  
on last day of school.DEF sings school choir.DEF NOG in church.DEF  
On the last day of school, the school choir sings in the church.

c. *Target Adverb*

- i. *På skolaslutningen sjunger säkert skolkören i kyrkan.*  
on last day of school.DEF sings surely school choir.DEF in church.DEF
- ii. *På skolaslutningen sjunger skolkören säkert i kyrkan.*  
on last day of school.DEF sings school choir.DEF surely in church.DEF  
On the last day of school, the school choir surely sings in the church.

(11) a. *Context*

- i. *På vardagarna pluggar studenterna på biblioteket i Lund,*  
on week days.DEF study students.DEF on library.DEF in Lund  
*men på helgerna är det stängt.*  
but on weekend.DEF is it closed

On the week days the students study at the library in Lund but on the weekends is closed.

- ii. *På helgerna har biblioteket i Lund stängt.*  
on weekend.DEF has library.DEF in Lund closed  
On the weekends the library in Lund is closed.

b. *Target MP*

- i. *Då pluggar nog studenterna hemma.*  
then study NOG students.DEF home
- ii. *Då pluggar studenterna nog hemma.*  
then study students.DEF NOG home  
The students study at home then.

c. *Target Adverb*

- i. *Då pluggar givetvis studenterna hemma.*  
then study of course students.DEF home
- ii. *Då pluggar studenterna givetvis hemma.*  
then study students.DEF of course home  
The students of course study at home then.

(12) a. *Context*

- i. *Barnets sommarlov är ofta fullt av aktiviteter.*  
child.DEF.POSS summer break is often full of activities  
The child's summer break is usually crammed with activities.
- ii. *Föräldrarna måste ofta jobba på sommaren.*  
parents.DEF must often work on summer.DEF  
The parents must often work in the summer time.

b. *Target MP*

- i. *Då åker visst barnet på sommarläger.*  
then go VISST child.DEF on summer camp
- ii. *Då åker barnet visst på sommarläger.*  
then go child.DEF VISST on summer camp  
Then the child goes on summer camp.

c. *Target Adverb*

- i. *Då åker förmodligen barnet på sommarläger.*  
then go probably child.DEF on summer camp
- ii. *Då åker barnet förmodligen på sommarläger.*  
then go child.DEF probably on summer camp  
Then the child probably goes on summer camp.

(13) a. *Context*

- i. *Eleverna ser alltid fram emot sina balettlektioner.*  
students.DEF see always forward to POSS ballet classes.DEF  
The students always look forward to their ballet classes.
- ii. *Man behöver mycket plats när man dansar balett.*  
one needs much space when one dances ballet.  
One needs a lot of space when one dances ballet.

b. *Target MP*

- i. *Då dansar visst eleverna i den stora salen.*  
then dance VISST students.DEF in the big studio.DEF
- ii. *Då dansar eleverna visst i den stora salen.*  
then dance students.DEF VISST in the big studio.DEF  
The students dance in the big studio then.

c. *Target Adverb*

- i. *Då dansar förstås eleverna i den stora salen.*  
then dance of course students.DEF in the big studio.DEF
- ii. *Då dansar eleverna förstås i den stora salen.*  
then dance students.DEF of course in the big studio.DEF  
The students of course dance in the big studio then.

(14) a. *Context*

- i. *De flesta studenterna i klassen fick bra betyg i matte.*  
the most students.DEF in class.DEF received good grades in math  
Most of the students in the class received good grades in math.
- ii. *Betygen i matte var oväntat höga i klass 7a.*  
grades in math were surprisingly high in class.DEF 7a  
The grades in math were surprisingly high in class 7a.

b. *Target MP*

- i. *Denna terminen fuskade visst studenterna på slutprovet.*  
this term.DEF cheated VISST students.DEF at final exam.DEF
- ii. *Denna terminen fuskade studenterna visst på slutprovet.*  
this term.DEF cheated students.DEF VISST at final exam.DEF  
This term the students cheated on their final exam.

c. *Target Adverb*

- i. *Denna terminen fuskade bevisligen studenterna på*  
this term.DEF cheated evidently students.DEF at  
*slutprovet.*  
final exam.DEF
- ii. *Denna terminen fuskade studenterna bevisligen på*  
this term.DEF cheated students.DEF evidently at  
*slutprovet.*  
final exam.DEF  
This term the students evidently cheated on their final exam.

(15) a. *Context*

- i. *Mamman brukar hämta sin yngsta son kl 17.*  
mother.DEF usually pick up her youngest son o'clock 17  
The mother usually picks up her youngest son at 17 o'clock.
- ii. *Det yngsta barnet måste hämtas varje dag klockan 17.*  
the youngest child.DEF must pick up.PASS each day o'clock 17  
The youngest child must be picked up at 17 o'clock each day.

b. *Target MP*

- i. *Efter jobbet skyndar nog mamman till dagiset.*  
after work hurries NOG mother.DEF to kinder garden.DEF
- ii. *Efter jobbet skyndar mamman nog till dagiset.*  
after work hurries mother.DEF NOG to kinder garden.DEF  
After work the mother hurries to the kinder garden.

c. *Target Adverb*

- i. *Efter jobbet skyndar sannolikt mamman till dagiset.*  
after work hurries probably mother.DEF to kinder garden.DEF
- ii. *Efter jobbet skyndar mamman sannolikt till dagiset.*  
after work hurries mother.DEF probably to kinder garden.DEF  
After work the mother probably hurries to the kinder garden.

(16) a. *Context*

- i. *Akrobaterna förbereder sig noga inför uppträdandena.*  
acrobats.DEF prepare REFLX carefully before shows.DEF  
The acrobats prepare themselves carefully before shows.
- ii. *Det är viktigt att värma upp inför cirkusföreställningarna.*  
it is important to warm up before circus shows.DEF  
It is important to warm up before the circus shows.

b. *Target MP*

- i. *Precis innan föreställningen övar visst akrobaterna i*  
just before show.DEF practice VISST acrobats.DEF on  
*manegen.*  
stage.DEF
    - ii. *Precis innan föreställningen övar akrobaterna visst i*  
just before show.DEF practice acrobats.DEF VISST on  
*manegen.*  
stage.DEF  
Immediately before the show the acrobats practice on stage.
  - c. *Target Adverb*
    - i. *Precis innan föreställningen övar självfallet akrobaterna i*  
just before show.DEF practice of course acrobats.DEF on  
*manegen.*  
stage.DEF
    - ii. *Precis innan föreställningen övar akrobaterna självfallet i*  
just before show.DEF practice acrobats.DEF of course on  
*manegen.*  
stage.DEF  
Immediately before the show the acrobats of course practice on  
stage.
- (17) a. *Context*
- i. *Arbetarna på pappersbruket har sällan ledigt.*  
workers.DEF on paper factory.DEF have rarely off  
The workers at the paper factory rarely have a day off.
  - ii. *På pappersbruket jobbas det dygnet runt.*  
on paper factory.DEF woks.PASS it day round  
At the paper factory work is done 24/7.
- b. *Target MP*
- i. *Där jobbar nog arbetarna på helgerna.*  
there work NOG workers.DEF on weekends.DEF
  - ii. *Där jobbar arbetarna nog på helgerna.*  
there work workers.DEF NOG on weekends.DEF  
There the workers work on the weekends.
- c. *Target Adverb*
- i. *Där jobbar tyvärr arbetarna på helgerna.*  
there work unfortunately workers.DEF on weekends.DEF
  - ii. *Där jobbar arbetarna tyvärr på helgerna.*  
there work workers.DEF unfortunately on weekends.DEF  
There the workers unfortunately work on the weekends.



(18) a. *Context*

- i. *Efter maratontävlingen i denna värmen behöver*  
 After marathon.DEF in this heat need  
*deltagarna hämta kraft igen.*  
 participants.DEF get strength again  
 After the marathon in this heat, the participants need to regain strength.
- ii. *Efter maratontävlingen i denna värmen behöver kroppen*  
 After marathon.DEF in this heat need body.DEF  
*återhämta sig.*  
 regenerate REFL  
 After the marathon in this heat, the body needs to regenerate.

b. *Target MP*

- i. *Efter loppet vilar nog deltagarna i 24 timmar.*  
 after run.DEF rest NOG participants.DEF in 24 hours
- ii. *Efter loppet vilar deltagarna nog i 24 timmar.*  
 after run.DEF rest participants.DEF NOG in 24 hours  
 After the run the participants rest for 24 hours.

c. *Target Adverb*

- i. *Efter loppet vilar verkligen deltagarna i 24 timmar.*  
 after run.DEF rest really participants.DEF in 24 hours
- ii. *Efter loppet vilar deltagarna verkligen i 24 timmar.*  
 after run.DEF rest participants.DEF really in 24 hours  
 After the run the participants really rest for 24 hours.

(19) a. *Context*

- i. *Grannarna planerar sin sommarsemester.*  
 neighbours.DEF plan POSS summer holiday  
 The neighbours plan their summer holiday.
- ii. *Nu är det dags att planera inför semestern.*  
 now is it time to plan before summer holiday.DEF  
 Now it is time to plan the summer holiday.

b. *Target MP*

- i. *I år bilar visst grannarna till Norge.*  
 in year go by car VISST neighbours.DEF to Norway
- ii. *I år bilar grannarna visst till Norge.*  
 in year go by car neighbours.DEF VISST to Norway  
 This year, the neighbours will drive to Norway.

c. *Target Adverb*

- i. *I år bilar kanske grannarna till Norge.*  
in year go by car possibly neighbours.DEF to Norway
- ii. *I år bilar grannarna kanske till Norge.*  
in year go by car neighbours.DEF possibly to Norway  
This year, the neighbours will possibly drive to Norway.

(20) a. *Context*

- i. *Försäljaren lyckades inte meddela kunden att han*  
sales man.DEF manage not inform costumer.DEF that he  
*blir sen till mötet.*  
become late to meeting.DEF  
The salesman did not manage to inform the costumer that he would  
be late to the meeting.
- ii. *Försäljaren försenar sig till mötet.*  
sales man.DEF late REFLX to meeting.DEF  
The salesman will be late to the meeting.

b. *Target MP*

- i. *Nu väntar visst kunden i receptionen.*  
now waits VISST costumer.DEF in front desk.DEF
- ii. *Nu väntar kunden visst i receptionen.*  
now waits costumer.DEF VISST in front desk.DEF  
Now the costumer waits by the front desk.

c. *Target Adverb*

- i. *Nu väntar möjligtvis kunden i receptionen.*  
now waits possibly costumer.DEF in front desk.DEF
- ii. *Nu väntar kunden möjligtvis i receptionen.*  
now waits costumer.DEF possibly in front desk.DEF  
Now the costumer possibly waits by the front desk.

(21) a. *Context*

- i. *Laget är inte nöjt med träningsförutsättningarna.*  
team.DEF is not pleased with training conditions.DEF  
The team is not pleased with the training conditions.
- ii. *Träningen blir mer ansträngande i år än vanligtvis.*  
training.DEF become more strenuous in year than usually  
The practice will be more strenuous this year than it usually is.

b. *Target MP*

- i. *Denna säsongen tränar visst laget på konstgräs.*  
this season.DEF play VISST team.DEF on artificial turf
- ii. *Denna säsongen tränar laget visst på konstgräs.*  
this season.DEF play team.DEF VISST on artificial turf  
This season the team plays on artificial turf.
- c. *Target Adverb*
  - i. *Denna säsongen tränar faktiskt laget på konstgräs.*  
this season.DEF play actually team.DEF on artificial turf
  - ii. *Denna säsongen tränar laget faktiskt på konstgräs.*  
this season.DEF play team.DEF actually on artificial turf  
This season the team actually plays on artificial turf.

(22) a. *Context*

- i. *Musikern sitter ofta vid pianot.*  
musician.DEF sits often by piano.DEF  
The musician often sits by the piano.
- ii. *Inne i arbetsrummet står det ett piano.*  
in in study.DEF stands it a piano  
In the study there is a piano.

b. *Target MP*

- i. *Vid det komponerar nog musikern hela dagarna.*  
by it composes NOG musician.DEF whole days.DEF
- ii. *Vid det komponerar musikern nog hela dagarna.*  
by it composes musician.DEF NOG whole days.DEF  
At it the musician (sits and) composes the whole days.

c. *Target Adverb*

- i. *Vid det komponerar självklart musikern hela dagarna.*  
by it composes of course musician.DEF whole days.DEF
- ii. *Vid det komponerar musikern självklart hela dagarna.*  
by it composes musician.DEF of course whole days.DEF  
At it the musician of course (sits and) composes the whole days.

(23) a. *Context*

- i. *Ungdomarna i klass 9B kan inte koncentrera sig på undervisningen.*  
youngsters.DEF in class 9B can not focus REFLX on lecture.DEF  
The youngsters in class 9B can not focus on the lecture.

- ii. *Det är svårt att koncentrera sig på undervisningen i klass*  
it is difficult to focus REFLX on lecture.DEF in class  
9B.

9B

It is difficult to focus on the lecture in class 9B.

b. *Target MP*

- i. *På lektionerna pratar visst ungdomarna hela tiden.*  
on classes.DEF talk VISST youngsters.DEF whole time.

- ii. *På lektionerna pratar ungdomarna visst hela tiden.*  
on classes.DEF talk youngsters.DEF VISST whole time.

During the classes the youngsters talk the whole time.

c. *Target Adverb*

- i. *På lektionerna pratar onekligen ungdomarna hela tiden.*  
on classes.DEF talk undeniably youngsters.DEF whole time.

- ii. *På lektionerna pratar ungdomarna onekligen hela tiden.*  
on classes.DEF talk youngsters.DEF undeniably whole time.

During the classes the youngsters undeniably talk the whole time.

(24) a. *Context*

- i. *Mannen är sällan hemma på helgen.*  
husband.DEF i rarely home on weekend.DEF

The husband is rarely at home on the weekend.

- ii. *Det är ingen hemma idag.*  
it is nobody home today

Today there is nobody at home.

b. *Target MP*

- i. *På söndagar åker nog mannen till travet.*  
on Sundays.DEF go NOG husband.DEF to harness racing.DEF

- ii. *På söndagar åker mannen nog till travet.*  
on Sundays.DEF go husband.DEF NOG to harness racing.DEF

On Sundays the husband goes to the horse racing.

c. *Target Adverb*

- i. *På söndagar åker garanterat mannen till*  
on Sundays.DEF go definitely husband.DEF to

*travet.*

harness racing.DEF

- ii. *På söndagar åker mannen garanterat till*  
on Sundays.DEF go husband.DEF definitely to

*travet.*

harness racing.DEF

On Sundays the husband definitely goes to the horse racing.

### A.3. Experiment 3: Given, focused, and contrasted DPs and nog/visst

The contexts are given in (a) and first context sentence, (i) shows the GIVEN context, (ii) the FOCUS context and (iii) the context with CONTRAST. The targets with MPs are presented in (b) and the targets with sentence adverbs in (c).

(1) a. *Context*

i. *Sekreterarna svarar sällan i telefon vid den här tiden på dagen.*  
secretaries.DEF answer rarely in telephone at this here time on day.DEF

The secretaries rarely answer the telephone at this time of day.

ii. *Sekreterarna svarar sällan i telefon vid den här tiden på dagen. Det gäller för många av de anställda här.*  
day.DEF that holds for many of the employees here.

The secretaries rarely answer the telephone at this time of day. That is true for many of the employees here.

iii. *Vem svarar sällan i telefon vid den här tiden på dagen, receptionisterna eller sekreterarna?*  
who answers rarely in telephone at this here time on day.DEF receptionists.DEF or secretaries.DEF

receptionists.DEF or secretaries.DEF

Who rarely answers the telephone at this time of day, the receptionists or the secretaries?

b. *Target MP*

i. *På förmiddagarna sitter nog sekreterarna i möten.*  
on before middays.DEF sit NOG secretaries.DEF i meetings.

ii. *På förmiddagarna sitter sekreterarna nog i möten.*  
on before middays.DEF sit secretaries.DEF NOG i meetings.

Before noon, the secretaries are in meetings.

c. *Target Adverb*

i. *På förmiddagarna sitter möjligtvis sekreterarna i*  
on before middays.DEF sit possibly secretaries.DEF i

*möten.*  
meetings.

- ii. *På förmiddagarna sitter sekreterarna möjligtvis i möten.*  
on before middays.DEF sit secretaries.DEF possibly i meetings.  
Before noon, the secretaries possibly are in meetings.

(2) a. *Context*

- i. *Renarna betar sällan här i dalen vid den här tiden på året.*  
reindeer.DEF grass rarely here in valley.DEF at this here time.DEF on year.DEF  
The reindeer rarely grass here in the valley at this time of the year.
- ii. *Renarna betar sällan här i dalen vid den här tiden på året. Det gäller för många djur.*  
reindeer.DEF grass rarely here in valley.DEF at this here time.DEF on year.DEF that holds for many animals.  
The reindeer rarely grass here in the valley at this time of the year.  
That is true for many animals.
- iii. *Vilka djur betar sällan här i dalen vid den här tiden på året? Renarna eller hjortarna?*  
which animals grass rarely here in valley.DEF at this here time.DEF on year.DEF reindeer.DEF or deer.DEF  
Which animals rarely grass here in the valley at this time of the year, the reindeer or the deer?

b. *Target MP*

- i. *På sommaren vandrar nog renarna upp på kalfjället.*  
on summer migrate NOG reindeer.DEF up on mountain.DEF
- ii. *På sommaren vandrar renarna nog upp på kalfjället.*  
on summer migrate reindeer.DEF NOG up on mountain.DEF  
In the summer the reindeer migrate up into the mountains.

c. *Target Adverb*

- i. *På sommaren vandrar vanligtvis renarna upp på kalfjället.*  
on summer migrate usually reindeer.DEF up on mountain.DEF
- ii. *På sommaren vandrar renarna vanligtvis upp på kalfjället.*  
on summer migrate reindeer.DEF usually up on mountain.DEF

In the summer the reindeer usually migrate up into the mountains.

(3) a. *Context*

- i. *Björnen i djurparken syns inte så här års.*  
 bear.DEF in zoo.DEF be seen not so here year

The bear at the zoo is not visible at this time of the year.

- ii. *Björnen i djurparken syns inte så här års. Det gäller för många djur.*  
 bear.DEF in zoo.DEF be seen not so here year that holds for many animals.

The bear at the zoo is not visible at this time of the year. That is true for many animals.

- iii. *Vilket djur i djurparken syns inte så här års, vargen eller björnen?*  
 which animal in zoo.DEF be seen not so here year wolf.DEF or bear.DEF

Which animal at the zoo is not visible at this time of the year, the wolf or the bear.

b. *Target MP*

- i. *På vintern sover nog björnen i sitt ide.*  
 on winter.DEF sleeps NOG bear.DEF in its den

- ii. *På vintern sover björnen nog i sitt ide.*  
 on winter.DEF sleeps bear.DEF NOG in its den  
 In the winter, the bear sleeps in its den.

c. *Target Adverb*

- i. *På vintern sover naturligtvis björnen i sitt ide.*  
 on winter.DEF sleeps of course bear.DEF in its den

- ii. *På vintern sover björnen naturligtvis i sitt ide.*  
 on winter.DEF sleeps bear.DEF of course in its den  
 In the winter, the bear of course sleeps in its den.

(4) a. *Context*

- i. *När temperaturen sjunker ser man inga hästar här ute.*  
 when temperature.DEF sinks sees one no horses here outside

When the temperature sinks, one does not see any horses outside here.

- ii. *När temperaturen sjunker ser man inga hästar här ute. Många boskapsdjur klarar inte av att vara ute i*  
 when temperature.DEF sinks sees one no horses here outside many livestock withstand not of to be outside in

*kylan.*

cold.DEF

When the temperature sinks, one does not see any horses outside here. Some livestock cannot withstand the cold outside.

- iii. *Vilka djur ser man inte här ute när det är kallt,*  
 which animals sees one not here outside when it is, horses.DEF  
*hästarna eller fåren?*  
 or sheep.DEF

Which animal does one not see outside here when it is cold, the horses or the sheep?

b. *Target MP*

- i. *På vintern står nog hästarna i stallet.*  
 on winter stand NOG horses.DEF in stable.DEF
- ii. *På vintern står hästarna nog i stallet.*  
 on winter stand horses.DEF NOG in stable.DEF  
 In the winter, the horses stand in the stable.

c. *Target Adverb*

- i. *På vintern står förhoppningsvis hästarna i stallet.*  
 on winter stand hopefully horses.DEF in stable.DEF
- ii. *På vintern står hästarna förhoppningsvis i stallet.*  
 on winter stand horses.DEF hopefully in stable.DEF  
 In the winter, the horses hopefully stand in the stable.

(5) a. *Context*

- i. *Seniorerna kopplar gärna av efter de tränat.*  
 senior citizens.DEF relax gladly of after they worked out  
 The senior citizens like to relax after they have worked out.
- ii. *Seniorerna kopplar gärna av efter de tränat. Det*  
 senior citizens.DEF relax gladly of after they worked out that  
*gör många av medlemmarna på gymmet.*  
 do many of members.DEF on sports club.DEF  
 The senior citizens like to relax after they have worked out. Many of the members of the sports club do.
- iii. *Vem kopplar gärna av efter de tränat, ungdomarna*  
 who relax gladly of after they worked out youngsters.DEF  
*eller seniorerna?*  
 or senior citizens.DEF  
 Who likes to relax after they have worked out, the youngsters or the senior citizens?



b. *Target MP*

- i. *Efter träningspasset bastar                    nog seniorerna                    i den*  
 after work out unit take a sauna NOG senior citizens.DEF in the  
*nya bastun.*  
 new sauna.DEF
- ii. *Efter träningspasset bastar                    seniorerna                    nog i den*  
 after work out unit take a sauna senior citizens.DEF NOG in the  
*nya bastun.*  
 new sauna.DEF  
 After the work out, the senior citizens take a sauna in the sauna.

c. *Target Adverb*

- i. *Efter träningspasset bastar                    givetvis seniorerna                    i*  
 after work out unit take a sauna of course senior citizens.DEF in  
*den nya bastun.*  
 the new sauna.DEF
- ii. *Efter träningspasset bastar                    seniorerna                    givetvis i*  
 after work out unit take a sauna senior citizens.DEF of course in  
*den nya bastun.*  
 the new sauna.DEF  
 After the work out, of course the senior citizens take a sauna in the  
 sauna.

(6) a. *Context*

- i. *Även på fritiden    är kaptenen    ofta ute till sjöss.*  
 also on spare time is captain.DEF often out to sea  
 Also in his spare time is the captain out at sea.
- ii. *Även på fritiden    är kaptenen    ofta ute till sjöss. Det är*  
 also on spare time is captain.DEF often out to sea that is  
*allt sjöfolk.*  
 all seafarers  
 Also in his spare time is the captain out at sea. All seafarers are.
- iii. *Vem är ofta till sjöss även på fritiden, kaptenen eller*  
 who is often to sea also on spare time captain.DEF or  
*matrosen?*  
 seaman.DEF  
 Who is often at sea in the spare time, the captain or the seaman?

b. *Target MP*

- i. *På semestern seglar nog kaptenen    i skärgården.*  
 on holiday.DEF sails NOG captain.DEF in archipelago.DEF

- ii. *På semestern seglar kaptenen nog i skärgården.*  
on holiday.DEF sails captain.DEF NOG in archipelago.DEF  
On the holiday, the captain sails in the archipelago.

c. *Target Adverb*

- i. *På semestern seglar troligtvis kaptenen i skärgården.*  
on holiday.DEF sails likely captain.DEF in archipelago.DEF
- ii. *På semestern seglar kaptenen troligtvis i skärgården.*  
on holiday.DEF sails captain.DEF likely in archipelago.DEF  
On the holiday, the captain likely sails in the archipelago.

(7) a. *Context*

- i. *Pensionärsföreningen åker gärna bort och lämnar*  
senior citizen club.DEF goes gladly away and leaves  
*vinterkylan.*  
winter cold.DEF  
The senior citizen club gladly goes abroad and leaves the winter cold behind.
- ii. *Pensionärsföreningen åker gärna bort och lämnar*  
senior citizen club.DEF goes gladly away and leaves  
*vinterkylan. Det gör många nordbor.*  
winter cold.DEF that does many northerners  
The senior citizen club gladly goes abroad and leaves the winter cold behind. Many Northerners do.
- iii. *Vem åker gärna bort och lämnar vinterkylan bakom sig,*  
who goes gladly away and leaves winter cold.DEF behind them,  
*kyrkgruppen eller pensionärsföreningen?*  
church group.DEF or senior citizen club.DEF  
Who gladly goes abroad and leaves the winter cold behind, the church group or the senior citizen club?

b. *Target MP*

- i. *I vinter reser visst pensionärsföreningen till Spanien.*  
in winter travels VISST senior citizen club.DEF to Spain.
- ii. *I vinter reser pensionärsföreningen visst till Spanien.*  
in winter travels senior citizen club.DEF VISST to Spain.  
This winter, the senior citizen club will travel to Spain.

c. *Target Adverb*

I vinter reser pensionärsföreningen till Spanien.

- i. *I vinter reser förhoppningsvis pensionärsföreningen till*  
in winter travels hopefully senior citizen club.DEF to

*Spanien.*

Spain.

- ii. *I vinter reser pensionärsföreningen förhoppningsvis till*  
in winter travels senior citizen club.DEF hopefully to  
*Spanien.*  
Spain.  
This winter, the senior citizen club hopefully will travel to Spain.

(8) a. *Context*

- i. *Skidlandslaget åker ofta på läger utomlands när det är*  
national ski team.DEF go often on camp abroad when it is  
*snöbrist hemma.*  
lack of snow at home  
The national ski team often goes on camps abroad when there is a  
lack of snow at home.
- ii. *Skidlandslaget åker ofta på läger utomlands när det är*  
national ski team.DEF go often on camp abroad when it is  
*snöbrist hemma. Det gör många vinteridrottare.*  
lack of snow at home that does many winter athletes  
The national ski team often goes on camps abroad when there is a  
lack of snow at home. Many winter sport athletes do.
- iii. *Vilket lag åker på läger utomlands när det är snöbrist*  
which team go on camp abroad when it is lack of snow  
*hemma, skidlandslaget eller ishockylaget?*  
at home national ski team.DEF or ice hockey team.DEF  
Which team often goes on camps abroad when there is a lack of  
snow at home, the national ski team or the ice hockey team?

b. *Target MP*

- i. *I höst tränar visst skidlandslaget i Alperna.*  
in autumn practice VISST national ski team.DEF in Alps.DEF
- ii. *I höst tränar skidlandslaget visst i Alperna.*  
in autumn practice national ski team.DEF VISST in Alps.DEF  
This autumn the national ski team practices in the Alps.

c. *Target Adverb*

I höst tränar skidlandslaget i Alperna.

- i. *I höst tränar antagligen skidlandslaget i Alperna.*  
In autumn practice probably national ski team.DEF in Alps.DEF
- ii. *I höst tränar skidlandslaget antagligen i Alperna.*  
In autumn practice national ski team.DEF probably in Alps.DEF  
This autumn the national ski team probably practices in the Alps.

(9) a. *Context*

- i. *Familjen Svenssons yngsta dotter har just flyttat till USA.*  
 family.DEF Svensson.POSS youngest daughter has just moved to  
 the US

The youngest daughter of the Svensson family has just moved to the US.

- ii. *Familjen Svenssons yngsta dotter har just flyttat till USA. Flera av deras vuxna barn bor utomlands.*  
 family.DEF Svensson's youngest daughter has just moved to  
 the US many of their grown up children live abroad

The youngest daughter of the Svensson family has just moved to the US. Many of their grown up children live abroad.

- iii. *Vem av familjen Svenssons barn besöker föräldrarna så ofta det går, sonen eller dottern?*  
 which of family.DEF Svensson's children visit parents.DEF as  
 often it goes, son.DEF or daughter.DEF

Which one of the children of the Svensson family visits the parents as often as possible, the son or the daughter?

b. *Target MP*

- i. *På loven flyger nog dottern hem till familjen.*  
 on school holidays flies NOG daughter home to family.DEF

- ii. *På loven flyger dottern nog hem till familjen.*  
 on school holidays flies daughter NOG home to family.DEF

During the school holidays the daughter flies home to the family.

c. *Target Adverb*

- i. *På loven flyger säkerligen dottern hem till familjen.*  
 on school holidays flies surely daughter home to  
 family.DEF

- ii. *På loven flyger dottern säkerligen hem till familjen.*  
 on school holidays flies daughter surely home to  
 family.DEF

During the school holidays the daughter surely flies home to the family.

(10) a. *Context*

- i. *På vårterminen övar högstadiets skolkör flitigt på*  
 on spring term practices high school choir diligently on

*sommarsångerna.*

summer songs.DEF

During the spring term the high school choir practices the summer songs diligently.

- ii. *På vårterminen övar högstadiets skolkör flitigt på sommarsångerna. Många andra elever förbereder också något inför terminslutet.*  
 on spring term practices high school choir diligently on summer songs.DEF many other pupils prepare also something before end of semester.DEF

During the spring term the high school choir practices the summer songs diligently. Many other pupils also prepare something for the last day of school.

- iii. *Vem övar flitigt på sommarsångerna varje vårtermin, skolkören eller musikklassen?*  
 who practices diligently on summer songs.DEF every spring term high school choir.DEF or music class.DEF  
 Who practices the summer songs diligently during the spring term, the high school choir or the orchestra?

b. *Target MP*

- i. *På skolavslutningen sjunger visst skolkören i kyrkan.*  
 on last day of school.DEF sings VISST school choir.DEF in church.DEF

- ii. *På skolavslutningen sjunger skolkören visst i kyrkan.*  
 on last day of school.DEF sings school choir.DEF VISST in church.DEF  
 On the last day of school the school choir sings in church.

c. *Target Adverb*

- i. *På skolavslutningen sjunger förmodligen skolkören i kyrkan.*  
 on last day of school.DEF sings probably school choir.DEF in church.DEF

- ii. *På skolavslutningen sjunger skolkören förmodligen i kyrkan.*  
 on last day of school.DEF sings school choir.DEF probably in church.DEF  
 On the last day of school the school choir probably sings in church.

(11) a. *Context*

- i. *Läkarstudenterna börjar ofta jobba redan under*  
 medical school students.DEF starts often work already during  
*studietiden.*  
 studies  
 The medical school students usually start to work during their studies.
  - ii. *Läkarstudenterna börjar ofta jobba redan under*  
 medical school students.DEF starts often work already during  
*studietiden. Det gör många studenter.*  
 studies that does many students  
 The medical school students usually start to work during their studies. Many students do.
  - iii. *Vilka studenter brukar ofta börja jobba redan under*  
 which students usually often starts work already during  
*studietiden, läkarstudenterna eller*  
 studies medical school students.DEF or  
*kemistudenterna?*  
 chemistry students.DEF  
 Which students usually start to work during their studies, the medical school students or the students of chemistry?
- b. *Target MP*
- i. *Under studietiden praktiserar visst läkarstudenterna*  
 during studies work as a trainee VISST medical students.DEF  
*på vårdcentralen.*  
 on health clinic.DEF
  - ii. *Under studietiden praktiserar läkarstudenterna visst*  
 during studies work as a trainee medical students.DEF VISST  
*på vårdcentralen.*  
 on health clinic.DEF  
 During the studies the medical students work as trainees at the health clinic.
- c. *Target Adverb*
- i. *Under studietiden praktiserar förstås*  
 during studies work as a trainee of course  
*läkarstudenterna på vårdcentralen.*  
 medical students.DEF on health clinic.DEF
  - ii. *Under studietiden praktiserar läkarstudenterna*  
 during studies work as a trainee medical students.DEF  
*förstås på vårdcentralen.*  
 of course on health clinic.DEF

During the studies the medical students of course work as trainees at the health clinic.

(12) a. *Context*

- i. *Systrarna träffas ofta efter jobbet.*  
sisters.DEF meet often after work.DEF  
The sisters often meet after work.
- ii. *Systrarna träffas ofta efter jobbet. Det gör alla syskonen.*  
sisters.DEF meet often after work.DEF that do all siblings.DEF  
The sisters often meet after work. All the siblings do.
- iii. *Vilka syskon träffas ofta efter jobbet, bröderna eller systrarna?*  
sisters.DEF  
Which siblings often meet after work, the brothers or the sisters?

b. *Target MP*

- i. *Efter arbetsdagens slut fikar visst systrarna i stan.*  
after work day.DEF end have coffee VISST sisters.DEF in town.DEF
- ii. *Efter arbetsdagens slut fikar systrarna visst i stan.*  
after work day.DEF end have coffee sisters.DEF VISST in town.DEF

After the end of the work day, the sisters have coffee in town.

c. *Target Adverb*

- i. *Efter arbetsdagens slut fikar vanligtvis systrarna i stan.*  
after work day.DEF end have coffee usually sisters.DEF in town.DEF
  - ii. *Efter arbetsdagens slut fikar systrarna vanligtvis i stan.*  
after work day.DEF end have coffee sisters.DEF usually in town.DEF
- After the end of the work day, the sisters usually have coffee in town.

(13) a. *Context*

- i. *Dansskolans baletteleverna ser alltid fram emot improvisationslektionerna.*  
dance school.DEF.POSS ballet students see always forward to improvisation classes.DEF

The ballet students of the dance school always look forward to the improvisation classes.

- ii. *Dansskolans baletteleverna ser alltid fram emot improvisationslektionerna. Det gör många av danseleverna.*  
 dance school.DEF.POSS ballet students see always forward to improvisation classes.DEF that do many of dance students.DEF

The ballet students of the dance school always look forward to the improvisation classes. Many of the dance students do.

- iii. *Vilka av dansskolans elever behöver mest plats när de har improvisationslektioner, baletteleverna eller jazzeleverna?*  
 Which of dance school.DEF.POSS students need more space when they have improvisation classes.DEF, ballet students.DEF or jazz students.DEF

Which of the students of the dance school need more space when they have improvisation classes, the ballet students or the jazz students?

b. *Target MP*

- i. *Då dansar visst baletteleverna i den stora salen.*  
 then dance VISST ballet students.DEF in the big studio.DEF
- ii. *Då dansar baletteleverna visst i den stora salen.*  
 then dance ballet students.DEF VISST in the big studio.DEF  
 Then (during that class), the ballet students dance in the big studio.

c. *Target Adverb*

- i. *Då dansar tydligen baletteleverna i den stora salen.*  
 then dance obviously ballet students.DEF in the big studio.DEF
- ii. *Då dansar baletteleverna tydligen i den stora salen.*  
 then dance ballet students.DEF obviously in the big studio.DEF  
 Then (during that class), the ballet students obviously dance in the big studio.

(14) a. *Context*

- i. *Konsteleverna fick överraskande bra betyg i matte i*  
 art students.DEF received surprisingly good grades in math in



*år.*

year

The art students received surprisingly good grades in math this year.

- ii. *Konst eleverna fick överraskande bra betyg i matte i år. Det fick de flesta av skolans elever.*  
 art students.DEF received surprisingly good grades in math in year that received the most of school.DEF.POSS students.

The art students received surprisingly good grades in math this year.

Many of the students at the school did.

- iii. *Vilka elever fick överraskande bra betyg i matte i år, språkklassen eller konst eleverna?*  
 which students received surprisingly good grades in math in year language class.DEF or art students.DEF  
 Which students received surprisingly good grades in math this year, the language class or the art students?

b. *Target MP*

- i. *Denna terminen fuskade visst konst eleverna på slutprovet.*  
 this term.DEF cheat VISST art students.DEF at final exam.DEF  
 This term the art students cheated on their final exam.
- ii. *Denna terminen fuskade konst eleverna visst på slutprovet.*  
 this term.DEF cheat art students.DEF VISST at final exam.DEF  
 This term the art students cheated on their final exam.

c. *Target Adverb*

- i. *Denna terminen fuskade möjligtvis konst eleverna på slutprovet.*  
 this term.DEF cheat possibly art students.DEF at final exam.DEF  
 This term the art students might have cheated on their final exam.
- ii. *Denna terminen fuskade konst eleverna möjligtvis på slutprovet.*  
 this term.DEF cheat art students.DEF VISST at final exam.DEF  
 This term the art students might have cheated on their final exam.

(15) a. *Context*

- i. *Mamman brukar hämta sin yngsta son kl 17.*  
 mother.DEF usually pick up her youngest son o'clock 17  
 The mother usually picks up her youngest son at 17 o'clock.

- ii. *Mamman brukar hämta sin yngsta son kl 17.*  
mother.DEF usually pick up her youngest son o'clock 17  
*Föräldrarna försöker dela på den uppgiften.*  
parents.DEF try part on that task.DEF  
The mother usually picks up her youngest son at 17 o'clock. The  
parents try to share that task.
- iii. *Vem brukar hämta sonen från dagis kl 17,*  
who usually pick up son.DEF from kinder garden o'clock 17  
*mamman eller pappan?*  
mother.DEF or father.DEF  
Who usually picks up the son from kinder garden at 17 o'clock, the  
mother or the father?

b. *Target MP*

- i. *Efter jobbet skyndar visst mamman till dagiset.*  
after work hurries VISST mother.DEF to kinder garden.DEF
- ii. *Efter jobbet skyndar mamman visst till dagiset.*  
after work hurries mother.DEF VISST to kinder garden.DEF  
After work the mother hurries to the kinder garden.

c. *Target Adverb*

- i. *Efter jobbet skyndar antagligen mamman till*  
after work hurries probably mother.DEF to  
*dagiset.*  
kinder garden.DEF
- ii. *Efter jobbet skyndar mamman antagligen till*  
after work hurries mother.DEF probably to  
*dagiset.*  
kinder garden.DEF  
After work the mother probably hurries to the kinder garden.

(16) a. *Context*

- i. *Akrobaterna förbereder sig in i det sista inför*  
acrobatsDEF prepare REFLX in in the last before  
*uppträdandena.*  
shows.DEF  
The acrobats prepare themselves until the very last moment before  
shows.
- ii. *Akrobaterna förbereder sig in i det sista inför*  
acrobatsDEF prepare REFLX in in the last before  
*uppträdandena. Det gör alla cirkusens artister.*  
shows.DEF that do all circusPOSS artists.DEF

The acrobats prepare themselves until the very last moment before shows. All of the artists at the circus do.

- iii. *Vem förbereder sig in i det sista inför cirkusföreställningen,*  
 who prepare REFLX in in the last before circus show.DEF  
*akrobaterna eller clownerna?*  
 acrobatsDEF or clownsDEF

Which ones prepare themselves until the very last moment before the circus show, the acrobats or the clowns?

b. *Target MP*

- i. *Precis innan föreställningen övar visst akrobaterna bakom*  
 just before show.DEF practice VISST acrobatsDEF behind  
*kulisserna.*  
 curtains.DEF

- ii. *Precis innan föreställningen övar akrobaterna visst bakom*  
 just before show.DEF practice acrobatsDEF VISST behind  
*kulisserna.*  
 curtains.DEF

Just before the show the acrobats practice behind the curtains.

c. *Target Adverb*

- i. *Precis innan föreställningen övar säkert akrobaterna bakom*  
 just before show.DEF practice surely acrobatsDEF behind  
*kulisserna.*  
 curtains.DEF

- ii. *Precis innan föreställningen övar akrobaterna säkert bakom*  
 just before show.DEF practice acrobatsDEF surely behind  
*kulisserna.*  
 curtains.DEF

Just before the show the acrobats surely practice behind the curtains.

(17) a. *Context*

- i. *Vid stora högtider har konditorerna mycket att göra.*  
 at big holidays have pastry chefs.DEF much to do  
 At big holidays the pastry chefs have a lot o things to do.

- ii. *Vid stora högtider har konditorerna mycket att göra. Det*  
 at big holidays have pastry chefs.DEF much to do that  
*gäller för alla som jobbar inom gastronomin.*  
 holds for all REL work in gastronomy.DEF  
 At big holidays the pastry chefs have a lot o things to do. That is  
 true for everyone who works in gastronomy.

- iii. *Vem har mycket att göra vid stora högtider, konditorerna*  
 who has much to do at big holidays pastry chefs.DEF  
*eller kockarna?*  
 or chefs.DEF  
 Who has a lot of things to do at big holidays, the pastry chefs or  
 the chefs?

b. *Target MP*

- i. *Just nu jobbar nog konditorerna dygnet runt.*  
 just now work NOG pastry chefs.DEF day round
- ii. *Just nu jobbar konditorerna nog dygnet runt.*  
 just now work pastry chefs.DEF NOG day round  
 At the moment the pastry chefs work around the clock.

c. *Target Adverb*

- i. *Just nu jobbar säkert konditorerna dygnet runt.*  
 just now work surely pastry chefs.DEF day round
- ii. *Just nu jobbar konditorerna säkert dygnet runt.*  
 just now work pastry chefs.DEF surely day round  
 At the moment the pastry chefs surely work around the clock.

(18) a. *Context*

- i. *Efter maratontävlingen i denna värmen behöver*  
 after marathon.DEF in this heat need  
*elitlöparna hämta kraft igen.*  
 elite runners.DEF get strength again  
 After the marathon in this heat the elite runners need to regain  
 strength.
- ii. *Efter maratontävlingen i denna värmen behöver*  
 after marathon.DEF in this heat need  
*elitlöparna hämta kraft igen. Det gäller för alla*  
 elite runners.DEF get strength again that holds for all  
*deltagarna i tävlingen.*  
 participants.DEF in competition.DEF  
 After the marathon in this heat the elite runners need to regain  
 strength. That it true for all the participants in the competition.
- iii. *Vem behöver hämta kraft efter det långa maratonloppet i*  
 who needs to get strength after the long marathon.DEF in  
*värmen, motionärerna eller elitlöparna?*  
 heat.DEF recreational runners.DEF or elite runners.DEF  
 Who needs to regain strength after the long marathon in the heat,  
 the recreational runner or the elite runners?

b. *Target MP*

- i. *Efter loppet vilar nog elitlöparna i 24 timmar.*  
after run.DEF rest NOG elite runners.DEF in 24 hours.
- ii. *Efter loppet vilar elitlöparna nog i 24 timmar.*  
after run.DEF rest elite runners.DEF NOG in 24 hours.  
After the run the elite runners rest for 24 hours.

c. *Target Adverb*

- i. *Efter loppet vilar faktiskt elitlöparna i 24 timmar.*  
after run.DEF rest actually elite runners.DEF in 24 hours.
- ii. *Efter loppet vilar elitlöparna faktiskt i 24 timmar.*  
after run.DEF rest elite runners.DEF actually in 24 hours.  
After the run the elite runners actually rest for 24 hours.

(19) a. *Context*

- i. *Chefen planerar en klimatsmart sommarsemester.*  
boss.DEF plans a climate-smart summer holiday  
The boss plans a climate-smart summer holiday.
- ii. *Chefen planerar en klimatsmart sommarsemester. Det gör  
många kollegor just nu.*  
boss.DEF plans a climate-smart summer holiday that do  
many colleagues just now  
The boss plans a climate-smart summer holiday. Many colleagues  
do at the moment.
- iii. *Vem planerar en klimatsmart sommarsemester, chefen eller  
sekreteraren?*  
who plans a climate-smart summer holiday boss.DEF or  
secretary.DEF  
Who plans a climate-smart summer holiday, the boss or the secre-  
tary?

b. *Target MP*

- i. *I år cyklar visst chefen till Norge.*  
in year bikes VISST boss.DEF to Norway
- ii. *I år cyklar chefen visst till Norge.*  
in year bikes boss.DEF VISST to Norway  
This year, the boss will bike to Norway.

c. *Target Adverb*

- i. *I år cyklar troligtvis chefen till Norge.*  
in year bikes probably boss.DEF to Norway

- ii. *I år cyklar chefen troligtvis till Norge.*  
in year bikes boss.DEF probably to Norway  
This year, the boss will probably bike to Norway.

(20) a. *Context*

- i. *Språkläraren är alltid överpunktlig till dagens första lektion.*  
language teacher.DEF is always over-punctual to day.POSS first lesson  
The language teacher is always over-punctual to the first lesson of the day.
- ii. *Språkläraren är alltid överpunktlig till dagens första lektion. Det är alla lärare.*  
language teacher.DEF is always over-punctual to day.POSS first lesson that is all teachers  
The language teacher is always over-punctual to the first lesson of the day. All teachers are.
- iii. *Vem är alltid överpunktlig till dagens första lektion, geografiläraren eller språkläraren?*  
who is always over-punctual to day.POSS first lesson, geography teacher.DEF or language teacher.DEF  
Who is always over-punctual to the first lesson of the day, the geography teacher or the language teacher?

b. *Target MP*

- i. *På morgonen väntar visst språkläraren i klassrummet.*  
on morning waits VISST language teacher.DEF in class room.DEF
- ii. *På morgonen väntar språkläraren visst i klassrummet.*  
on morning waits language teacher.DEF VISST in class room.DEF  
In the morning, the language teacher waits in the class room.

c. *Target Adverb*

På morgonen väntar språkläraren i klassrummet.

- i. *På morgonen väntar säkerligen språkläraren i klassrummet.*  
on morning waits surely language teacher.DEF in class room.DEF

- ii. *På morgonen väntar språkläraren säkerligen i klassrummet.*  
on morning waits language teacher.DEF surely in class room.DEF  
In the morning, the language teacher surely waits in the class room.

(21) a. *Context*

- i. *Damlaget har sämre träningsförutsättningar i år.*  
woman team.DEF has worse training conditions.DEF in year  
The women's team has worse training conditions this year.
- ii. *Damlaget har sämre träningsförutsättningar i år. Det har alla lag i klubben.*  
woman team.DEF has worse training conditions.DEF in year that have all teams i club.DEF  
The women's team has worse training conditions this year. All teams in the club have this year.
- iii. *Vem har sämst träningsförutsättningar i år, damlaget eller ungdomsgrupperna?*  
who has worst training conditions.DEF in year woman team.DEF or youth team.DEF  
Who has the worst training conditions this year, the women's team or the youth team?

b. *Target MP*

- i. *Denna säsongen spelar visst damlaget på konstgräs.*  
this season.DEF play VISST woman team.DEF on artificial turf
- ii. *Denna säsongen spelar damlaget visst på konstgräs.*  
this season.DEF play woman team.DEF VISST on artificial turf

This season the women's team plays on artificial turf.

c. *Target Adverb*

- i. *Denna säsongen spelar tyvärr damlaget på konstgräs.*  
this season.DEF play unfortunately woman team.DEF on artificial turf
- ii. *Denna säsongen spelar damlaget tyvärr på konstgräs.*  
this season.DEF play woman team.DEF unfortunately on artificial turf

This season the women's team unfortunately plays on artificial turf.

(22) a. *Context*

- i. *Violinisten tillbringar ofta många timmar om dagen*  
 violin player.DEF spends often many hours of day.DEF  
*med att öva på sitt instrument.*  
 with to practice on POSS instrument  
 The violin player spends many hours each day practising his instrument.
- ii. *Violinisten tillbringar ofta många timmar om dagen*  
 violin player.DEF spends often many hours of day.DEF  
*med att öva på sitt instrument. Det gör alla medlemmar*  
 with to practice on POSS instrument that do all members  
*i orkestern.*  
 in orchestra.DEF  
 The violin player spends many hours each day practising his instrument. All members of the orchestra do.
- iii. *Vem tillbringar ofta flera timmar om dagen med att öva*  
 Who spends often many hours of day.DEF with to practice  
*på sitt instrument, cellisten eller violinisten?*  
 on POSS instrument cellist.DEF or violin player.DEF  
 Who spends many hours each day to practising his instrument, the cellist or the violin player?

b. *Target MP*

- i. *Innan en konsert repeterar nog violinisten flera dagar i*  
 before a concert rehearse NOG violin player.DEF many days in  
*sträck.*  
 line.  
 Before a concert, the violin player rehearses many days.
- ii. *Innan en konsert repeterar violinisten nog flera dagar i*  
 before a concert rehearse violin player.DEF NOG many days in  
*sträck.*  
 line.

c. *Target Adverb*

- i. *Innan en konsert repeterar naturligtvis violinisten flera*  
 before a concert rehearse naturally violin player.DEF many  
*dagar i sträck.*  
 days in line.
- ii. *Innan en konsert repeterar violinisten naturligtvis flera*  
 before a concert rehearse violin player.DEF naturally many



*dag* *i* *sträck*.

days in line.

Before a concert, the violin player naturally rehearses many days.

(23) a. *Context*

- i. *Efter en lång dag i laboratoriet vill kemisten gärna*  
 After a long day in laboratory<sub>DEF</sub> wants chemist.<sub>DEF</sub> gladly

*få lite motion.*

have a bit exercise

After a long day in the laboratory, the chemist wants to get some exercise.

- ii. *Efter en lång dag i laboratoriet vill kemisten gärna*  
 After a long day in laboratory<sub>DEF</sub> wants chemist.<sub>DEF</sub> gladly

*få lite motion. Det vill många som jobbar inomhus hela*  
 have a bit exercise that want many REL work indoors whole  
*dagarna.*

days.<sub>DEF</sub>

After a long day in the laboratory, the chemist wants to get some exercise. Many who work indoors want to.

- iii. *Vem vill gärna få lite motion efter en lång dag i*  
 Who wants gladly have a bit exercise after a long day in  
*laboratoriet, kemisten eller biologen?*

laboratory<sub>DEF</sub> chemist.<sub>DEF</sub> or biologist.<sub>DEF</sub>

Who gladly wants to get some exercise after a long day in the laboratory, the chemist or the biologist?

b. *Target MP*

- i. *Efter dagens slut promenerar nog kemisten hem*  
 after day.<sub>DEF</sub>.<sub>POSS</sub> end walks NOG chemist.<sub>DEF</sub> home

*genom parken.*

through park.<sub>DEF</sub>

- ii. *Efter dagens slut promenerar kemisten nog hem*  
 after day.<sub>DEF</sub>.<sub>POSS</sub> end walks chemist.<sub>DEF</sub> NOG home

*genom parken.*

through park.<sub>DEF</sub>

After the end of the day, the chemist walks home though the park.

c. *Target Adverb*

- i. *Efter dagens slut promenerar faktiskt kemisten hem*  
 after day.<sub>DEF</sub>.<sub>POSS</sub> end walks actually chemist.<sub>DEF</sub> home

*genom parken.*

through park.<sub>DEF</sub>

- ii. *Efter dagens slut promenerar kemisten faktiskt hem genom parken.*  
 after day.DEF.POSS end walks chemist.DEF actually home  
 through park.DEF  
 After the end of the day, the chemist actually walks home though  
 the park.

(24) a. *Context*

- i. *Sopranen har en stark röst som inte behöver förstärkas.*  
 soprano.DEF has a strong voice REL not needs amplified  
 The soprano has a strong voice that does not need to be amplified.
- ii. *Sopranen har en stark röst som inte behöver förstärkas.*  
 soprano.DEF has a strong voice REL not needs amplified  
*Det har många operasångare.*  
 that has many opera singers  
 The soprano has a strong voice that does not need to be amplified.  
 Many opera singers have that.
- iii. *Vem har en stark sångröst även utan förstärkning, alten eller sopranen?*  
 who has a strong voice even without amplification alto.DEF  
 or soprano.DEF  
 Who has a strong voice even without amplification, the alto or the  
 soprano?

b. *Target MP*

- i. *På konserter framträder nog sopranen utan mikrofon.*  
 on concerts appears NOG soprano.DEF without microphone
- ii. *På konserter framträder sopranen nog utan mikrofon.*  
 on concerts appears soprano.DEF NOG without microphone  
 At concerts the soprano appears without a microphone.

c. *Target Adverb*

- i. *På konserter framträder uppenbarligen sopranen utan mikrofon.*  
 on concerts appears apparently soprano.DEF without  
 microphone
- ii. *På konserter framträder sopranen uppenbarligen utan mikrofon.*  
 on concerts appears soprano.DEF apparently without  
 microphone  
 At concerts the soprano apparently appears without a microphone.

(25) a. *Context*

- i. *Ambulansförarna är ofta väldigt snabba med att rycka ut i*  
 paramedics.DEF are often very quick with to respond out in  
*nödfall.*

emergencies

The paramedics are often very quick to respond in emergency situations.

- ii. *Ambulansförarna är ofta väldigt snabba med att rycka ut i*  
 paramedics.DEF are often very quick with to respond out in  
*nödfall. Det är alla som jobbar inom räddningstjänsten.*

emergencies that are all REL work in emergency services

The paramedics are often very quick to respond in emergency situations. All first responders are.

- iii. *Vem är snabbast med att rycka ut efter larmsamtalet,*  
 who is quickest with to respond out after emergency call.DEF,  
*brandkåren eller ambulansförarna ?*

fire department.DEF or paramedics.DEF

Who is the quickest to respond to the emergence call, the fire department or the paramedics?

b. *Target MP*

- i. *Efter bilolyckan är nog ambulansförarna först på*  
 after car accident.DEF are NOG paramedics.DEF first on  
*olycksplatsen.*

accident site.DEF

- ii. *Efter bilolyckan är ambulansförarna nog först på*  
 after car accident.DEF are paramedics.DEF NOG first on  
*olycksplatsen.*

accident site.DEF

After the car accident the paramedics are the first ones to reach the accident site.

c. *Target Adverb*

- i. *Efter bilolyckan är tydligen ambulansförarna först på*  
 after car accident.DEF are apparently paramedics.DEF first on  
*olycksplatsen.*

accident site.DEF

After the car accident the paramedics apparently are the first ones to reach the accident site.

- ii. *Efter bilolyckan är ambulansförarna tydligen först på*  
 after car accident.DEF are paramedics.DEF apparently first on  
*olycksplatsen.*

accident site.DEF

After the car accident the paramedics apparently are the first ones to reach the accident site.

(26) a. *Context*

- i. *Pojkarna tycker att det är tråkigt att sitta inne och  
boys.DEF find that it is boring to sit inside and  
pyssla hela söndagen.  
do handicrafts hole Sunday.DEF*  
The boys find it boring to sit inside and do handicrafts the entire Sunday.
- ii. *Pojkarna tycker att det är tråkigt att sitta inne och  
boys.DEF find that it is boring to sit inside and  
pyssla hela söndagen. Det tycker de flesta barnen.  
do handicrafts hole Sunday.DEF that find the most childrenDEF*

The boys find it boring to sit inside and do handicrafts the entire Sunday. Most of the children do.

- iii. *Vem tycker att det är tråkigt att sitta inne och pyssla  
who finds that it is boring to sit inside and do handicrafts  
hela söndagen, pojkarna eller flickorna?  
hole Sunday.DEF boys.DEF or girlsDEF*  
Who finds it boring to sit inside and do handicrafts the entire Sunday, the boys or the girls?

b. *Target MP*

- i. *På eftermiddagen leker visst pojkarna ute på gården.  
on afternoon play VISST boys.DEF out on yard.DEF*
- ii. *På eftermiddagen leker pojkarna visst ute på gården.  
on afternoon play boys.DEF VISST out on yard.DEF*  
In the afternoon the boys play in the yard.

c. *Target Adverb*

- i. *På eftermiddagen leker förstås pojkarna ute på gården.  
on afternoon play of course boys.DEF out on yard.DEF*
- ii. *På eftermiddagen leker pojkarna förstås ute på gården.  
on afternoon play boys.DEF of course out on yard.DEF*  
In the afternoon the boys of course play in the yard.

(27) a. *Context*

- i. *Publiken är på gott humör i kväll.  
audience.DEF is on good mood in tonight*

The audience is in a good mood tonight.

- ii. *Publiken är på gott humör i kväll. Det är*  
 audience.DEF is on good mood in tonight that is  
*premiärfolk ofta.*  
 premiere people often

The audience is in a good mood tonight. Premiere guests often are.

- iii. *Vem är på gott humör i kväll, komikern eller*  
 who is on good mood in tonight comedian.DEF or  
*publiken?*  
 audience.DEF

Who is in a good mood tonight, the comedian or the audience?

b. *Target MP*

- i. *Under föreställningen skrattar visst publiken hela*  
 during show.DEF laughs VISST audience.DEF whole  
*tiden.*  
 time.DEF

- ii. *Under föreställningen skrattar publiken visst hela*  
 during show.DEF laughs audience.DEF VISST whole  
*tiden.*  
 time.DEF

During the show the audience laughs the entire time.

c. *Target Adverb*

- i. *Under föreställningen skrattar uppenbarligen publiken hela*  
 during show.DEF laughs obviously audience.DEF whole  
*tiden.*  
 time.DEF

- ii. *Under föreställningen skrattar publiken uppenbarligen hela*  
 during show.DEF laughs audience.DEF obviously whole  
*tiden.*  
 time.DEF

During the show the audience obviously laughs the entire time.

(28) a. *Context*

- i. *Efter prisutdelningen bjuds pristagarna på*  
 after award ceremony.DEF invite.PASS laureates.DEF on  
*fest i den blå hallen.*  
 celebration in the Blue Hall.

After the award ceremony the laureates are invited to a celebration in the Blue Hall.

- ii. *Efter prisutdelningen bjuds pristagarna på*  
 after award ceremony.DEF invite.PASS laureates.DEF on  
*fest i den blå hallen. Dit bjuds alla*  
 celebration in the Blue Hall there invite.PASS all  
*framstående forskare.*  
 distinguished researchers.  
 After the award ceremony the laureates are invited to a celebration  
 in the Blue Hall. All distinguished researchers are invited there.
- iii. *Vem framträder under festen efter*  
 who appears during celebration.DEF after  
*prisutdelningen, pristagarna eller*  
 award ceremony.DEF laureates.DEF or  
*styrelsemedlemmarna?*  
 members of the board.DEF.  
 Who appears during the celebration after the award ceremony, the  
 laureates or the members of the board?

b. *Target MP*

- i. *Under middagen talar nog pristagarna i minst tio*  
 during dinner.DEF talk NOG laureates.DEF in at least ten  
*minuter var.*  
 minutes each.
- ii. *Under middagen talar pristagarna nog i minst tio*  
 during dinner.DEF talk laureates.DEF NOG in at least ten  
*minuter var.*  
 minutes each.  
 During the dinner the laureates talk for at least ten minutes each.

c. *Target Adverb*

- i. *Under middagen talar troligen pristagarna i minst tio*  
 during dinner.DEF talk probably laureates.DEF in at least ten  
*minuter var.*  
 minutes each.
- ii. *Under middagen talar pristagarna troligen i minst tio*  
 during dinner.DEF talk laureates.DEF probably in at least ten  
*minuter var.*  
 minutes each.  
 During the dinner the laureates probably talk for at least ten min-  
 utes each.

(29) a. *Context*

- i. *På sommaren har trubaduren många konserter.*  
 on summer has singer.DEF many concerts

In the summer the singer has many concerts.

- ii. *På sommaren har trubaduren många konserter. Det gäller för de flesta musiker.*  
on summer has singer.DEF many concerts that holds for  
the most musicians

In the summer the singer has many concerts. That is true for most of the musicians.

- iii. *Vem har ofta många konserter på sommaren, trubaduren eller symfonieorkestern?*  
who has often many concerts on summer singer.DEF or  
orchestra.DEF

Who gives many concerts in the summer, the singer or the orchestra?

b. *Target MP*

- i. *Under kulturveckorna uppträder nog trubaduren varje dag.*  
during cultural festival.DEF perform NOG singer.DEF each day.
- ii. *Under kulturveckorna uppträder trubaduren nog varje dag.*  
during cultural festival.DEF perform singer.DEF NOG each day.  
The singer performs each day during the culture festival.

c. *Target Adverb*

- i. *Under kulturveckorna uppträder givetvis trubaduren varje dag.*  
during cultural festival.DEF perform of course singer.DEF each  
day.  
day.
- ii. *Under kulturveckorna uppträder trubaduren givetvis varje dag.*  
during cultural festival.DEF perform singer.DEF of course each  
day.  
day.  
The singer of course performs each day during the culture festival.

(30) a. *Context*

- i. *Hjärnkirurgerna deltar i en konferens om de nyaste forskningsrönen.*  
neurosurgeons.DEF participate in a conference about the newest  
research.DEF  
The neurosurgeons participate in a conference about the latest re-  
search.
- ii. *Hjärnkirurgerna deltar i en konferens om de nyaste forskningsrönen. Det gör alla läkare regelbundet.*  
neurosurgeons.DEF participate in a conference about the newest  
research.DEF that do all physicians regularly

The neurosurgeons participate in a conference about the latest research. All physicians do regularly.

- iii. *Vilka samlas för att prata om de nyaste forskningsrönen i*  
 who gather for to speak about the newest research.DEF in  
*detalj, ortopederna eller hjärnkirurgerna?*  
 detail orthopedists.DEF or neurosurgeons.DEF

Who gather to talk about the latest research, the orthopedists or the neurosurgeons?

b. *Target MP*

- i. *Efter tre föredrag diskuterar visst hjärnkirurgerna i*  
 after three talks discuss VISST neurosurgeons.DEF in  
*mindre arbetsgrupper.*  
 smaller working groups

- ii. *Efter tre föredrag diskuterar hjärnkirurgerna visst i*  
 after three talks discuss neurosurgeons.DEF VISST in  
*mindre arbetsgrupper.*  
 smaller working groups

After three talks the neurosurgeons discuss in smaller working groups.

c. *Target Adverb*

- i. *Efter tre föredrag diskuterar troligen hjärnkirurgerna i*  
 after three talks discuss probably neurosurgeons.DEF in  
*mindre arbetsgrupper.*  
 smaller working groups

- ii. *Efter tre föredrag diskuterar hjärnkirurgerna troligen i*  
 after three talks discuss neurosurgeons.DEF probably in  
*mindre arbetsgrupper.*  
 smaller working groups

After three talks the neurosurgeons probably discuss in smaller working groups.

(31) a. *Context*

- i. *Ungdomarna i klass 9B kan inte koncentrera sig på*  
 youngsters.DEF in class 9B can not focus REFL on  
*undervisningen.*  
 teaching.DEF

The youngsters in class 9B can not focus on the teaching.

- ii. *Ungdomarna i klass 9B kan inte koncentrera sig på*  
 youngsters.DEF in class 9B can not focus REFL on  
*undervisningen. Det har många elever problem med nu för*  
 teaching.DEF that has many pupils problem with now for



*tiden.*

time.DEF

The youngsters in class 9B can not focus on the teaching. Many pupils have problems with that nowadays.

- iii. *Vem kan inte koncentrera sig på undervisningen,*  
 who can not focus REFL on teaching.DEF  
*ungdomarna eller elevassistenterna?*  
 youngsters.DEF or teacher assistants.DEF

Who cannot focus on teaching, the youngsters or the teacher assistants?

b. *Target MP*

- i. *På lektionerna pratar visst ungdomarna hela tiden.*  
 on classes.DEF talk VISST youngsters.DEF whole time.  
 ii. *På lektionerna pratar ungdomarna visst hela tiden.*  
 on classes.DEF talk youngsters.DEF VISST whole time.  
 During the classes the youngsters talk the entire time.

c. *Target Adverb*

- i. *På lektionerna pratar kanske ungdomarna hela tiden.*  
 on classes.DEF talk maybe youngsters.DEF whole time.  
 ii. *På lektionerna pratar ungdomarna kanske hela tiden.*  
 on classes.DEF talk youngsters.DEF maybe whole time.  
 During the classes the youngsters maybe talk the entire time.

(32) a. *Context*

- i. *Läkaren börjar alltid jobba tidigt på morgonen.*  
 physician.DEF starts always work early on morning.DEF  
 The physician always starts to work early in the morning.  
 ii. *Läkaren börjar alltid jobba tidigt på morgonen. För all*  
 physician.DEF starts always work early on morning.DEF for all  
*sjukhuspersonal börjar morgonskiftet kl 6.00*  
 hospital staff starts morning shift.DEF o'clock 6.00  
 The physician always starts to work early in the morning. The morning shift starts at 6 o'clock for all the hospital staff.  
 iii. *Vem har mycket pappersarbete att göra på förmiddagen,*  
 who has much paper work to do at for noon.DEF  
*läkaren eller sjukvårdarna?*  
 physician.DEF or nurses.DEF  
 Who has much paper work to do before noon, the physician or the nurse?

b. *Target MP*

i. *Efter morgonronden arbetar nog läkaren vid*  
 after morning round.DEF works NOG physician.DEF at  
*skrivbordet.*  
 desk.DEF

ii. *Efter morgonronden arbetar läkaren nog vid*  
 after morning round.DEF works physician.DEF NOG at  
*skrivbordet.*  
 desk.DEF

After the morning round, the physician works at the desk.

c. *Target Adverb*

i. *Efter morgonronden arbetar förmodligen läkaren vid*  
 after morning round.DEF works probably physician.DEF at  
*skrivbordet.*  
 desk.DEF

ii. *Efter morgonronden arbetar läkaren förmodligen vid*  
 after morning round.DEF works physician.DEF probably at  
*skrivbordet.*  
 desk.DEF

After the morning round, the physician probably works at the desk.

(33) a. *Context*

i. *Nybörjarna på ridskolan får inte galoppa utomhus*  
 beginners.DEF on riding school.DEF may not gallop outside  
*på egen hand.*  
 on own hand

The beginners at the riding school are not allowed to gallop outdoors on their own.

ii. *Nybörjarna på ridskolan får inte galoppa utomhus*  
 beginners.DEF on riding school.DEF may not gallop outside  
*på egen hand. Den regeln gäller för alla yngre elever.*  
 on own hand that rule holds for all younger students.

The beginners at the riding school are not allowed to gallop outdoors on their own. That applies to all the younger students.

iii. *Vem av ridskolans elever får inte galoppa*  
 who of riding school.DEF.POSS students may not gallop  
*utomhus på egen hand, nybörjarna eller alla yngre elever?*  
 outside on own hand beginners.DEF or all younger students  
 Which ones of the riding school's students are not allowed to gallop outdoors on their own, the beginners or all of the younger students?

b. *Target MP*

- i. *Under de första lektionerna rider nog nybörjarna i*  
during the first lessons ride NOG beginners.DEF in  
*manegen.*  
riding hall.DEF
- ii. *Under de första lektionerna rider nybörjarna nog i*  
during the first lessons ride beginners.DEF NOG in  
*manegen.*  
riding hall.DEF  
During the first lessons the beginners ride in the riding hall.

c. *Target Adverb*

- i. *Under de första lektionerna rider självfallet nybörjarna i*  
during the first lessons ride of course beginners.DEF in  
*manegen.*  
riding hall.DEF
- ii. *Under de första lektionerna rider nybörjarna självfallet i*  
during the first lessons ride beginners.DEF of course in  
*manegen.*  
riding hall.DEF  
During the first lessons the beginners of course ride in the riding hall.

(34) a. *Context*

- i. *Brudgummen är väldigt nervös inför bröllopet.*  
groom.DEF is very nervous before wedding.DEF  
The groom is very nervous before the wedding.
- ii. *Brudgummen är väldigt nervös inför bröllopet. Det brukar*  
groom.DEF is very nervous before wedding.DEF that usually  
*alla brudpar vara.*  
all bridal couples be  
The groom is very nervous before the wedding. All bridal couples usually are.
- iii. *Vem är väldigt nervös inför bröllopet, bruden eller*  
who is very nervous before wedding.DEF bride.DEF or  
*brudgummen?*  
groom.DEF  
Who is very nervous before the wedding, the bride or the groom?

b. *Target MP*

- i. *Innan vigseln svimmar visst brudgummen utanför*  
before ceremony.DEF faints VISST groom.DEF in front of

*kyrkan.*

church.DEF

- ii. *Innan vigseln                      svimmar brudgummen visst utanför*  
before ceremony.DEF faints      groom.DEF      VISST in front of  
*kyrkan.*  
church.DEF

Before the ceremony the groom faints in front of the church.

c. *Target Adverb*

- i. *Innan vigseln                      svimmar tyvärr                      brudgummen*  
before ceremony.DEF faints      unfortunately groom.DEF  
*utanför kyrkan.*  
in front of church.DEF

- ii. *Innan vigseln                      svimmar brudgummen tyvärr*  
before ceremony.DEF faints      groom.DEF      unfortunately  
*utanför kyrkan.*  
in front of church.DEF

Before the ceremony the groom unfortunately faints in front of the church.

(35) a. *Context*

- i. *Det är riskfyllt att jobba utomhus för takläggarna på vintern.*  
it is risky to work outdoors for roofer.DEF on winter.DEF  
It is risky to work outdoors in the winter for the roofers.
- ii. *Det är riskfyllt att jobba utomhus för takläggarna på vintern.*  
it is risky to work outdoors for roofer.DEF on winter.DEF  
*Det är det för alla byggarbetare.*  
that is it for all construction workers  
It is risky to work outdoors in the winter for the roofers. It is for all construction workers.
- iii. *Vem har ett riskfyllt arbete på vintern, rörmockaren eller*  
who has a risky work on winter.DEF plumber.DEF or  
*takläggarna?*  
roofers.DEF  
Who has a risky work outdoors in the winter, the plumber or the roofers?

b. *Target MP*

- i. *När det är minusgrader halkar nog takläggarna på isfläckar.*  
when it is minus degrees slip      NOG roofers.DEF on ice patches

- ii. *När det är minusgrader halkar takläggarna nog på isfläckar.*  
 when it is minus degrees slip roofers.DEF NOG on ice patches

When it is below zero the roofers slip on ice patches.

c. *Target Adverb*

- i. *När det är minusgrader halkar kanske takläggarna på isfläckar.*  
 when it is minus degrees slip perhaps roofers.DEF on ice patches

- ii. *När det är minusgrader halkar takläggarna kanske på isfläckar.*  
 when it is minus degrees slip roofers.DEF perhaps on ice patches

When it is below zero the roofers perhaps slip on ice patches.

(36) a. *Context*

- i. *Ingenjören sitter ofta stilla på jobbet.*  
 engineer.DEF sits often still on job.DEF

The engineer usually sits down at work.

- ii. *Ingenjören sitter ofta stilla på jobbet. Det gör alla som jobbar på kontor.*  
 engineer.DEF sits often still on job.DEF that does all REL work in office

The engineer usually sits down at work. Everyone who works in an office does.

- iii. *Vem motionerar gärna efter jobbet, programmeraren eller ingenjören?*  
 who exercise gladly after work, programmer.DEF or engineer.DEF

Who likes to exercise after work, the programmer or the engineer?

b. *Target MP*

- i. *Efter en lång arbetsdag joggar nog ingenjören runt sjön.*  
 after a long working day jogs NOG engineer.DEF round lake.DEF

- ii. *Efter en lång arbetsdag joggar ingenjören nog runt sjön.*  
 after a long working day jogs engineer.DEF NOG round lake.DEF

After a long working day the engineer jogs around the lake.

c. *Target Adverb*

- i. *Efter en lång arbetsdag joggar självfallet ingenjören runt*  
 after a long working day jogs of course engineer.DEF round  
*sjön.*  
 lake.DEF
- ii. *Efter en lång arbetsdag joggar ingenjören självfallet runt*  
 after a long working day jogs engineer.DEF of course round  
*sjön.*  
 lake.DEF  
 After a long working day the engineer of course jogs around the  
 lake.

## A.4. Experiment 4: New, focused, and contrasted DPs and nog/visst

The first context sentence, (i) shows a NEW context, (ii) a FOCUS context and (iii) a context with CONTRAST. The targets with MPs are presented in (b) and the targets with sentence adverbs in (c).

(1) a. *Context*

- i. *Det är svårt att få tag på någon på kontoret den här*  
 it is difficult to get hold on someone on office.DEF this here  
*tiden på dagen.*  
 time on day.DEF  
 It is difficult to get a hold of someone in the office at this time of  
 day.
- ii. *Vilka av medarbetarna är det svårt att få tag på den här*  
 which of employees.DEF is it difficult to get hold on this here  
*tiden på dagen?*  
 time on day.DEF  
 Which of the employees is it difficult to get a hold of at this time of  
 the day?
- iii. *Receptionisterna svarar sällan i telefon vid den här tiden*  
 receptionists.DEF answers rarely in telephone at this here time  
*på dagen. Vilka andra medarbetare är svåra att nå nu?*  
 on day.DEF which other employees are difficult to reach now  
 The receptionists rarely answers the telephone at this time of day.  
 Which other employees are difficult to reach at this moment?

b. *Target MP*

i. *På förmiddagarna sitter nog sekreterarna i möten.*  
 on before middays.DEF sit NOG secretaries.DEF i meetings.

ii. *På förmiddagarna sitter sekreterarna nog i möten.*  
 on before middays.DEF sit secretaries.DEF NOG i meetings.  
 Before noon, the secretaries are in meetings.

c. *Target Adverb*

i. *På förmiddagarna sitter möjligtvis sekreterarna i möten.*  
 on before middays.DEF sit possibly secretaries.DEF i meetings.  
 meetings.

ii. *På förmiddagarna sitter sekreterarna möjligtvis i möten.*  
 on before middays.DEF sit secretaries.DEF possibly i meetings.  
 meetings.  
 Before noon, the secretaries possible are in meetings.

(2) a. *Context*

i. *Det är lungt i dalen vid den här tiden på året.*  
 it is calm in valley.DEF at this here time.DEF on year.DEF  
 It is calm in the valley at this time of the year.

ii. *Vilka djur betar sällan här i dalen vid den här tiden på året?*  
 which animals grass rarely here in valley.DEF at this here time.DEF on year.DEF  
 Which animals rarely grass here in the valley at this time of the year?

iii. *Hjortarna betar sällan här i dalen vid den här tiden på året. Vilka andra djur betar inte heller här nu?*  
 deer.DEF grass rarely here in valley.DEF at this here time.DEF on year.DEF which other animal grass not either here now  
 The deer rarely grass here in the valley at this time of the year.  
 Which other animals do not grass here now?

b. *Target MP*

i. *På sommaren vandrar nog renarna upp på kalvfället.*  
 on summer migrate NOG reindeer.DEF up on mountain.DEF

ii. *På sommaren vandrar renarna nog upp på kalvfället.*  
 on summer migrate reindeer.DEF NOG up on mountain.DEF  
 In the summer the reindeer migrate up into the mountains.

c. *Target Adverb*

- i. *På sommaren vandrar vanligtvis renarna upp på kalffället.*  
on summer migrate usually reindeer.DEF up on mountain.DEF  
In the summer the reindeer usually migrate up into the mountains.
- ii. *På sommaren vandrar renarna vanligtvis upp på kalffället.*  
on summer migrate reindeer.DEF usually up on mountain.DEF  
In the summer the reindeer usually migrate up into the mountains.

(3) a. *Context*

- i. *Så här års är det lugnt i djurparken.*  
such here year it is calm in zoo.DEF  
It is calm at the zoo at this time of the year.
- ii. *Vilka av djuren i djurparken syns sällan så här års?*  
Which of animals.DEF in zoo.DEF be seen rarely so here year  
Which animals at the zoo are rarely visible at this time of the year?
- iii. *Grävlingen i djurparken syns inte så här års. Vilka andra djur syns sällan?*  
badger.DEF in zoo.DEF be seen not so here year which other animal sees rarely  
The badger at the zoo is not visible at this time of the year. Which other animal is also rarely visible?

b. *Target MP*

- i. *På vintern sover nog björnen i sitt ide.*  
on winter.DEF sleeps NOG bear.DEF in its den  
In the winter, the bear sleeps in its den.
- ii. *På vintern sover björnen nog i sitt ide.*  
on winter.DEF sleeps bear.DEF NOG in its den  
In the winter, the bear sleeps in its den.

c. *Target Adverb*

- i. *På vintern sover naturligtvis björnen i sitt ide.*  
on winter.DEF sleeps of course bear.DEF in its den  
In the winter, the bear of course sleeps in its den.
- ii. *På vintern sover björnen naturligtvis i sitt ide.*  
on winter.DEF sleeps bear.DEF of course in its den  
In the winter, the bear of course sleeps in its den.

(4) a. *Context*



- i. *När temperaturen sjunker blir det tomt i hagarna*  
when temperature.DEF sinks gets it empty in meadows.DEF  
*här ute.*  
here outside  
When the temperature sinks, it is empty in the meadows here.
  - ii. *Vilka boskapsdjur klarar inte av att vara ute i kylan?*  
which livestock withstand not of to be outside in cold.DEF  
Which livestock cannot withstand the cold outside?
  - iii. *Fåren ser man sällan utomhus när det är kallt. Vilka*  
sheep.DEF sees one rarely outside when it is cold which  
*andra djur står inne när temperaturen närmar sig*  
other animals stand indoors when temperature.DEF close REFL  
*frysunkten?*  
freezing point.DEF  
the sheep does one see rarely outside when it is cold. Which other  
animals are indoors when the temperature is close to the freezing  
point?
- b. *Target MP*
- i. *På vintern står nog hästarna i stallet.*  
on winter stand NOG horses.DEF in stable.DEF
  - ii. *På vintern står hästarna nog i stallet.*  
on winter stand horses.DEF NOG in stable.DEF  
In the winter, the horses stand in the stable.
- c. *Target Adverb*
- i. *På vintern står förhoppningsvis hästarna i stallet.*  
on winter stand hopefully horses.DEF in stable.DEF
  - ii. *På vintern står hästarna förhoppningsvis i stallet.*  
on winter stand horses.DEF hopefully in stable.DEF  
In the winter, the horses hopefully stand in the stable.
- (5) a. *Context*
- i. *Det är alltid viktigt att återhämta sig efter intensiv*  
it is always important to regenerate REFL intense after  
*träning.*  
work out  
It is always important to regenerate after an intense work out.
  - ii. *Många av medlemmarna på gymmet kopplar gärna av efter de*  
many of members.DEF at gym relax gladly of after they  
*tränat.*  
worked out

Many of the members at the gym like to relax after they have worked out.

- iii. *Ungdomarna kopplar gärna av efter de tränat. Vilka youngsters.DEF relax gladly of after they worked out which andra medlemmar på gymmet tycker att det är viktigt med other members at gym find that it is important with återhämtning? regeneration*

The youngsters likes to relax after they have worked out. Which other members also find regeneration important?

b. *Target MP*

- i. *Efter träningspasset består nog seniorerna i den after work out unit take a sauna NOG senior citizens.DEF in the nya bastun. new sauna.DEF*
- ii. *Efter träningspasset består seniorerna nog i den after work out unit take a sauna senior citizens.DEF NOG in the nya bastun. new sauna.DEF*

After the work out, the senior citizens take a sauna in the sauna.

c. *Target Adverb*

- i. *Efter träningspasset består givetvis seniorerna i after work out unit take a sauna of course senior citizens.DEF in den nya bastun. the new sauna.DEF*
- ii. *Efter träningspasset består seniorerna givetvis i after work out unit take a sauna senior citizens.DEF of course in den nya bastun. the new sauna.DEF*

After the work out, of course the senior citizens take a sauna in the sauna.

(6) a. *Context*

- i. *Det är inte så spännande att navigera på öppet hav jämt. it is not so exiting to navigate on open sea always It is not so exiting to navigate on the wide ocean all the time.*
- ii. *Även på fritiden är sjöfolk ofta ute till sjöss. also on spare time is seafarers.DEF often out to sea Also in the spare time seafarers are often out at sea.*

- iii. *Matrosen är ofta till sjöss även på fritiden. Vem mer*  
 seaman.DEF is often to sea also on spare time who else  
*tycker alltid om att segla?*  
 likes always of to sail.  
 The seaman is often at sea in the spare time. Who else always likes  
 to sail?

b. *Target MP*

- i. *På semestern seglar nog kaptenen i skärgården.*  
 on holiday.DEF sails NOG captain.DEF in archipelago.DEF  
 ii. *På semestern seglar kaptenen nog i skärgården.*  
 on holiday.DEF sails captain.DEF NOG in archipelago.DEF  
 On the holiday, the captain sails in the archipelago.

c. *Target Adverb*

- i. *På semestern seglar troligtvis kaptenen i skärgården.*  
 on holiday.DEF sails likely captain.DEF in archipelago.DEF  
 ii. *På semestern seglar kaptenen troligtvis i skärgården.*  
 on holiday.DEF sails captain.DEF likely in archipelago.DEF  
 On the holiday, the captain likely sails in the archipelago.

(7) a. *Context*

- i. *Det kan vara skönt att åka bort och lämna vinterkylan*  
 it can be nice to go away and leaves winter cold.DEF  
*ibland.*  
 sometimes  
 It can be nice to go away and leave the winter cold behind some-  
 times.  
 ii. *Många nordbor åker gärna bort och lämnar vinterkylan*  
 many northerners goes gladly away and leaves winter cold.DEF  
*ibland.*  
 sometimes  
 Many Northerners gladly goes abroad and leaves the winter cold  
 behind sometimes.  
 iii. *Kyrkgruppen åker gärna bort och lämnar vinterkylan*  
 church group.DEF goes gladly away and leaves winter cold.DEF  
*bakom sig. Vilka andra flyr gärna mörkret och*  
 behind them who else escapes gladly darkness.DEF and  
*kylan?*  
 cold.DEF  
 The church group gladly goes abroad and leaves the winter cold  
 behind. Who else likes to escape the darkness and cold?

b. *Target MP*

- i. *I vinter reser visst pensionärsföreningen till Spanien.*  
in winter travels VISST senior citizen club.DEF to Spain.
- ii. *I vinter reser pensionärsföreningen visst till Spanien.*  
in winter travels senior citizen club.DEF VISST to Spain.  
This winter, the senior citizen club will travel to Spain.

c. *Target Adverb*

- i. *I vinter reser förhoppningsvis pensionärsföreningen till Spanien.*  
in winter travels hopefully senior citizen club.DEF to Spain.  
Spain.  
This winter, the senior citizen club hopefully will travel to Spain.
- ii. *I vinter reser pensionärsföreningen förhoppningsvis till Spanien.*  
in winter travels senior citizen club.DEF hopefully to Spain.  
Spain.  
This winter, the senior citizen club hopefully will travel to Spain.

(8) a. *Context*

- i. *Om det är snöbrist i fjällen i början av säsongen kan man behöva åka söderut för att hitta snö.*  
when it is lack of snow in mountains in beginning.DEF of season.DEF can one nee go south for to find snow.  
When there is a lack of snow at home in the beginning of the season, one might have to go south to find snow.
- ii. *Många vintersportsutövare åker ofta på läger utomlands när det är snöbrist hemma i början av säsongen.*  
many winter athletes go often on camp abroad when it is lack of snow at home in beginning of season.DEF  
Many winter sport athletes often go on camps abroad when there is a lack of snow at home in the beginning of the season.
- iii. *Backhopparlaget åker ofta på läger utomlands när det är snöbrist hemma i början av säsongen. Vilket annat lag tränar också ofta utomlands?*  
ski-jumper team.DEF go often on camp abroad when it is lack of snow at home in beginning of season.DEF which other team trains also often abroad.  
The ski-jumping team often goes on camps abroad when there is a lack of snow at home in the beginning of the season. Which other team often trains abroad?

b. *Target MP*

- i. *I höst tränar visst skidlandslaget i Alperna.*  
in autumn practices VISST national ski team.DEF in Alps.DEF
- ii. *I höst tränar skidlandslaget visst i Alperna.*  
in autumn practices national ski team.DEF VISST in Alps.DEF  
This autumn the national ski team practices in the Alps.
- c. *Target Adverb*
  - i. *I höst tränar antagligen skidlandslaget i Alperna.*  
in autumn practices probably national ski team.DEF in Alps.DEF
  - ii. *I höst tränar skidlandslaget antagligen i Alperna.*  
in autumn practices national ski team.DEF probably in Alps.DEF

This autumn the national ski team probably practices in the Alps.

(9) a. *Context*

- i. *Det är inte roligt att fira jul ensam utomlands.*  
it is not fun to celebrate Christmas alone abroad  
It is not fun to celebrate Christmas alone abroad.
- ii. *Familjen Svenssons vuxna barn, som alla bor utomlands, tycker om att tillbringa all sin lediga tid på familjens landställe.*  
family.DEF Svensson's grown up children REF all live abroad  
like about to spend all their free time on family country house  
The grown up children of the Svensson family, who all live abroad, like to spend all their free time at country house.
- iii. *Familjen Svenssons äldsta son besöker föräldrarna ofta. Vilka av de andra barnen kommer hem så ofta det går?*  
family.DEF Svensson's oldest son visits parents.DEF often which of the other children.DEF come home as often it goes  
The oldest son of the Svensson family visits the parents often. Which one of the other children come home as often as possible?

b. *Target MP*

- i. *På loven flyger nog dottern hem till familjen.*  
on school holidays flies NOG daughter home to family.DEF
- ii. *På loven flyger dottern nog hem till familjen.*  
on school holidays flies daughter NOG home to family.DEF  
During the school holidays the daughter flies home to the family.

c. *Target Adverb*

- i. *På loven flyger säkerligen dottern hem till familjen.*  
on school holidays flies surely daughter home to family.DEF  
During the school holidays the daughter surely flies home to the family.
- ii. *På loven flyger dottern säkerligen hem till familjen.*  
on school holidays flies daughter surely home to family.DEF  
During the school holidays the daughter surely flies home to the family.

(10) a. *Context*

- i. *Sista dagen på terminen brukar vara väldigt stämningsfull.*  
last day.DEF on semester usually be very atmospheric  
The last day of the semester usually is very atmospheric.
- ii. *Alla musikelever förbereder sig inför terminslutet.*  
All music pupils prepare REFL before end of semester.DEF  
All the music student prepare something for the last day of school.
- iii. *Musikklassen övar flitigt på sommarsångerna under vårterminen. Vilka andra elever förbereder något inför terminslutet?*  
music class.DEF practices diligently on summer songs.DEF during spring term.DEF which other students prepare something before end of semester.DEF  
The orchestra practices the summer songs diligently during the spring term. Which other students prepare something for the last day of school?

b. *Target MP*

- i. *På skolavslutningen sjunger visst skolkören i kyrkan.*  
on last day of school.DEF sings VISST school choir.DEF in church.DEF  
On the last day of school the school choir sings in church.
- ii. *På skolavslutningen sjunger skolkören visst i kyrkan.*  
on last day of school.DEF sings school choir.DEF VISST in church.DEF  
On the last day of school the school choir sings in church.

c. *Target Adverb*

- i. *På skolavslutningen sjunger förmodligen skolkören i kyrkan.*  
on last day of school.DEF sings probably school choir.DEF in church.DEF
- ii. *På skolavslutningen sjunger skolkören förmodligen i kyrkan.*  
on last day of school.DEF sings school choir.DEF probably in church.DEF  
On the last day of school the school choir probably sings in church.

(11) a. *Context*

- i. *Det är inte ovanligt att jobba vid sidan av heltidsstudier.*  
it is not unusual to work at side of full time studies  
It is not unusual to work during full time studies.
- ii. *Många studenter börjar jobba redan under studietiden.*  
many students start work already during studies  
Many students start to work during their studies.
- iii. *Kemistudenterna brukar ofta börja jobba redan under studietiden. Vilka andra studenter gör också det?*  
chemistry students.DEF usually often start work already during studies which other students also do that  
The students of chemistry usually start to work already during their studies. Which other students also do that?

b. *Target MP*

- i. *Under studietiden praktiserar visst läkarstudenterna på vårdcentralen.*  
during studies work as a trainee VISST medical students.DEF on health clinic.DEF
- ii. *Under studietiden praktiserar läkarstudenterna visst på vårdcentralen.*  
during studies work as a trainee medical students.DEF VISST on health clinic.DEF  
During the studies the medical students work as trainees at the health clinic.

c. *Target Adverb*

- i. *Under studietiden praktiserar förstås läkarstudenterna på vårdcentralen.*  
during studies work as a trainee of course medical students.DEF on health clinic.DEF

- ii. *Under studietiden praktiserar läkarstudenterna*  
during studies work as a trainee medical students.DEF  
*förstås på vårdcentralen.*  
of course on health clinic.DEF  
During the studies the medical students of course work as trainees  
at the health clinic.

(12) a. *Context*

- i. *Det är viktigt med socialt umgänge även efter jobbet.*  
it is important with social company also after work.DEF  
It is important to socialise also after work.
- ii. *Många av de anställda på det stora företaget umgås*  
many of the employees at the big company.DEF socialise  
*gärna även efter jobbet.*  
gladly also after work.DEF  
Many of the employees at the big company gladly spend time to-  
gether after work.
- iii. *Många av programmerarna på det stora företaget umgås*  
many of IT engineers.DEF at the big company.DEF socialise  
*gärna även efter jobbet. Vilka andra tycker om att göra*  
gladly also after work.DEF who else likes about to do  
*det?*  
that  
Many of the IT-engineers at the big company gladly spend time  
together after work. Who else enjoys doing that?

b. *Target MP*

- i. *Efter arbetsdagens slut fikar visst ekonomerna i*  
After work day.DEF end have coffee VISST economists.DEF in  
*stan.*  
town.DEF
- ii. *Efter arbetsdagens slut fikar ekonomerna visst i*  
After work day.DEF end have coffee economists.DEF VISST in  
*stan.*  
town.DEF  
After the end of the work day, the economists have coffee in town.

c. *Target Adverb*

- i. *Efter arbetsdagens slut fikar vanligtvis ekonomerna i*  
After work day.DEF end have coffee usually economists.DEF in  
*stan.*  
town.DEF



- ii. *Efter arbetsdagens slut fikar ekonomerna vanligtvis i stan.*  
 After work day.DEF end have coffee economists.DEF usually in town.DEF  
 After the end of the work day, the economists usually have coffee in town.

(13) a. *Context*

- i. *På dansskolans är improvisationslektionerna ofta fullbokade snabbt.*  
 at dance school.DEF are improvisation classes.DEF often fully booked quickly  
 At the dance school the improvisation classes are often quickly booked out.
- ii. *Många av dansskolans elever behöver mycket plats när de har improvisationslektioner.*  
 many of dance school.DEF.POSS students need much space when they have improvisation classes  
 Many of the students of the dance school need much space when they have improvisation classes.
- iii. *Dansskolans jazzelever behöver mycket plats när de har improvisationslektioner. Vilka andra elever behöver det vid improvisationsdans?*  
 dance school.DEF.POSS jazz students need much space when they have improvisation classes.DEF which other students need it at improvisational dance  
 The jazz students of the dance school need much space when they have improvisation classes. Which other students need it during improvisational dance?

b. *Target MP*

- i. *Då dansar visst baletteleverna i den stora salen.*  
 then dance VISST ballet students.DEF in the big studio.DEF
- ii. *Då dansar baletteleverna visst i den stora salen.*  
 then dance ballet students.DEF VISST in the big studio.DEF  
 Then (during that class), the ballet students dance in the big studio.

c. *Target Adverb*

- i. *Då dansar tydligen baletteleverna i den stora salen.*  
 then dance obviously ballet students.DEF in the big studio.DEF

- ii. *Då dansar baletteleverna tydligen i den stora*  
then dance ballet students.DEF obviously in the big  
*salen.*  
studio.DEF  
Then (during that class), the ballet students obviously dance in the  
big studio.

(14) a. *Context*

- i. *Det gavs överraskande bra betyg i matte i år.*  
it gave.PASS surprisingly good grades in math in year  
Surprisingly good grades in math were rewarded this year.
- ii. *De flesta av skolans elever fick överraskande*  
the most of school.DEF.POSS students received surprisingly  
*bra betyg i matte i år.*  
good grades in math in year  
Most of the students at the school received surprisingly good grades  
in math this year.
- iii. *Språkklassens elever fick överraskande bra*  
language class.DEF.POSS students received surprisingly good  
*betyg i matte i år. Vilka andra elever hade oväntat*  
grades in math in year which other students had unexpectedly  
*bra resultat?*  
good results?  
The students of the language class received surprisingly good grades  
in math this year. Which other students had unexpectedly good  
results?

b. *Target MP*

- i. *Denna terminen fuskade visst konsteleverna på*  
this term.DEF cheat VISST art students.DEF at  
*slutprovet.*  
final exam.DEF
- ii. *Denna terminen fuskade konsteleverna visst på*  
this term.DEF cheat art students.DEF VISST at  
*slutprovet.*  
final exam.DEF  
This term the art students cheated on their final exam.

c. *Target Adverb*

- i. *Denna terminen fuskade möjligtvis konsteleverna på*  
this term.DEF cheat possibly art students.DEF at  
*slutprovet.*  
final exam.DEF

- ii. *Denna terminen fuskade konsteleverna möjligtvis på*  
 this term.DEF cheat art students.DEF VISST at  
*slutprovet.*  
 final exam.DEF  
 This term the art students might have cheated on their final exam.

(15) a. *Context*

- i. *Det är stressigt att jobba heltid och ha småbarn.*  
 it is stressful to work full time and have small children  
 It is stressful to work full time and have small children.
- ii. *Föräldrarna har fullt upp att hinna med både*  
 parents.DEF have full upp to manage both full time work  
*heltidsjobb och småbarn men försöker dela på*  
 and small children but try part on tasks.DEF  
*uppgifterna så gott det går.*  
 as good it goes  
 The parents have all hands full managing both full time work and  
 small children but they try to share that task as good as possible.
- iii. *Ofta försöker pappan hämta barnen från*  
 often tries father.DEF pick up children.DEF from  
*dagis på kvällarna. Men det är inte alltid han har tid.*  
 kinder garden on evenings but it is not always he has time  
*Vem måste göra det då?*  
 who must do it then  
 The father often tries to pickup the children from kinder garden in  
 the evenings, but he does not always have the time to. Who must  
 do it in that case?

b. *Target MP*

- i. *Efter jobbet skyndar visst mamman till dagiset.*  
 after work hurries VISST mother.DEF to kinder garden.DEF
- ii. *Efter jobbet skyndar mamman visst till dagiset.*  
 after work hurries mother.DEF VISST to kinder garden.DEF  
 After work the mother hurries to the kinder garden.

c. *Target Adverb*

- i. *Efter jobbet skyndar antagligen mamman till*  
 after work hurries probably mother.DEF to  
*dagiset.*  
 kinder garden.DEF
- ii. *Efter jobbet skyndar mamman antagligen till*  
 after work hurries mother.DEF probably to

*dagiset.*

kinder garden.DEF

After work the mother probably hurries to the kinder garden.

(16) a. *Context*

- i. *Det är trångt bakom scenen innan ridån går upp.*

it is crowded behind scenes.DEF before curtain.DEF goes up

It is crowded behind the scenes before the curtain rises.

- ii. *Alla cirkusens artister förbereder sig in i det sista*

all circus.POSS artists.DEF prepare REFLX in in the last

*inför uppträdandena.*

before shows.DEF

All the artists of the circus prepare themselves until the very last moment before the shows.

- iii. *Clownerna förbereder sig in i det sista inför*

clowns.DEF prepare REFLX in in the last before

*cirkusföreställningen. Vilka andra artister gör det?*

circus show.DEF which other artists do that

The clowns prepare themselves until the very last moment before the circus show. Which other artists do that?

b. *Target MP*

- i. *Precis innan föreställningen övar visst akrobaterna bakom*

just before show.DEF practice VISST acrobatsDEF behind

*kulisserna.*

curtains.DEF

- ii. *Precis innan föreställningen övar akrobaterna visst bakom*

just before show.DEF practice acrobatsDEF VISST behind

*kulisserna.*

curtains.DEF

Just before the show the acrobats practice behind the curtains.

c. *Target Adverb*

- i. *Precis innan föreställningen övar säkert akrobaterna bakom*

just before show.DEF practice surely acrobatsDEF behind

*kulisserna.*

curtains.DEF

- ii. *Precis innan föreställningen övar akrobaterna säkert bakom*

just before show.DEF practice acrobatsDEF surely behind

*kulisserna.*

curtains.DEF

Just before the show the acrobats surely practice behind the curtains.

(17) a. *Context*

- i. *Det brukar vara rusning på färska tårter i början av sommaren.*  
it usually be rush at fresh cakes in beginning of summer.DEF  
There usually is a rush on freshly made cakes in the beginning of the summer.
- ii. *Vid stora högtider har alla som jobbar inom gastronomi mycket att göra.*  
at big holidays have all REL work in gastronomy.DEF much to do  
At big holidays everyone who works in gastronomy have a lot of things to do.
- iii. *Kockarna har mycket att göra vid stora högtider. Vilka andra chefs.DEF har fullt upp?*  
chefs.DEF have much to do at big holidays who else has full up  
The chefs have a lot of things to do at big holidays. Who else has their hands full?

b. *Target MP*

- i. *Just nu jobbar nog konditorerna dygnet runt.*  
just now work NOG pastry chefs.DEF day round
- ii. *Just nu jobbar konditorerna nog dygnet runt.*  
just now work pastry chefs.DEF NOG day round  
At the moment the pastry chefs work around the clock.

c. *Target Adverb*

- i. *Just nu jobbar säkert konditorerna dygnet runt.*  
just now work surely pastry chefs.DEF day round
- ii. *Just nu jobbar konditorerna säkert dygnet runt.*  
just now work pastry chefs.DEF surely day round  
At the moment the pastry chefs surely work around the clock.

(18) a. *Context*

- i. *Efter maratontävlingen i denna värmen är det viktigt att hämta kraft igen.*  
after marathon.DEF in this heat is it important to get strength again  
After the marathon in this heat it is important to regain strength.

- ii. *Efter maratontävlingen i denna värmen behöver alla*  
after marathon.DEF in this heat need all  
~~del~~tagarna i tävlingen hämta kraft igen.  
participants.DEF in competition.DEF get strength again  
After the marathon in this heat all the participants in the competi-  
tion need to regain strength.
- iii. *Motionärerna behöver hämta kraft efter det långa*  
recreational runners.DEF need to get strength after the long  
maratonloppet i värmen. Vilka andra är noga med att få  
marathon.DEF in heat.DEF who else is careful with to get  
god återhämtning?  
good recreation  
the recreational runner need to regain strength after the long marathon  
in the heat. Who esle is careful to have a proper recreation?

b. *Target MP*

- i. *Efter loppet vilar nog elitlöparna i 24 timmar.*  
after run.DEF rest NOG elite runners.DEF in 24 hours.
- ii. *Efter loppet vilar elitlöparna nog i 24 timmar.*  
after run.DEF rest elite runners.DEF NOG in 24 hours.  
After the run the elite runners rest for 24 hours.

c. *Target Adverb*

- i. *Efter loppet vilar faktiskt elitlöparna i 24 timmar.*  
after run.DEF rest actually elite runners.DEF in 24 hours.
- ii. *Efter loppet vilar elitlöparna faktiskt i 24 timmar.*  
after run.DEF rest elite runners.DEF actually in 24 hours.  
After the run the elite runners actually rest for 24 hours.

(19) a. *Context*

- i. *Det är på mode att göra en klimatsmart sommarsemester.*  
it is on fashion to do a climate-smart summer holiday  
It is in fashion to have a climate-smart summer holiday.
- ii. *Just nu planerar många kollegor en klimatsmart*  
just now many colleagues plan a climate-smart  
sommarsemester.  
summer holiday  
At the moment, many colleagues plan a climate-smart summer hol-  
iday. .
- iii. *Sekreteraren planerar att göra en klimatsmart*  
secretary.DEF plans to do a climate-smart

*sommarsemester. Vem mer planerar det?*

summer holiday who else plans that

The secretary plans a climate-smart summer holiday. Who else plans that?

b. *Target MP*

i. *I år cyklar visst chefen till Norge.*

in year bikes VISST boss.DEF to Norway

ii. *I år cyklar chefen visst till Norge.*

in year bikes boss.DEF VISST to Norway

This year, the boss will bike to Norway.

c. *Target Adverb*

i. *I år cyklar troligtvis chefen till Norge.*

in year bikes probably boss.DEF to Norway

ii. *I år cyklar chefen troligtvis till Norge.*

in year bikes boss.DEF probably to Norway

This year, the boss will probably bike to Norway.

(20) a. *Context*

i. *Det är ofta svårt att komma i tid till dagens första*

it is often difficult to come on time to day.DEF.POSS first

*lektion.*

lesson

Is is often difficult to be on time for the first lesson of the day.

ii. *Lärare är alltid punktiga till dagens första lektion.*

teachers is always punctual to day.DEF.POSS first lesson

Teachers are always on time to the first lesson of the day.

iii. *Geografiläraren är alltid punktlig till dagens*

geography teacher.DEF is always punctual to day.DEF.POSS

*första lektion. Vem mer är ofta ute i god tid?*

first lesson who else is often out in good time

The geography teacher is always on time to the first lesson of the day. Who else is often as early as possible?

b. *Target MP*

i. *På morgonen väntar visst språkläraren i*

on morning waits VISST language teacher.DEF in

*klassrummet.*

class room.DEF

ii. *På morgonen väntar språkläraren visst i*

on morning waits language teacher.DEF VISST in

*klassrummet.*

class room.DEF

In the morning, the language teacher waits in the class room.

c. *Target Adverb*

i. *På morgonen väntar säkerligen språkläraren i*  
on morning waits surely language teacher.DEF in  
*klassrummet.*  
class room.DEF

ii. *På morgonen väntar språkläraren säkerligen i*  
on morning waits language teacher.DEF surely in  
*klassrummet.*  
class room.DEF

In the morning, the language teacher surely waits in the class room.

(21) a. *Context*

i. *Gräsplanerna lider i sommarvärmen och kan inte användas*  
grass fields.DEF suffer in summerheat.DEF and can not be used  
*till träning i år.*  
to practice in year

The soccer grass field suffer in the summer heat and cannot be used  
for practice this year.

ii. *I år har alla lag i klubben sämre träningsförutsättningar.*  
in year have all teams i club.DEF worse training conditions.DEF  
All teams in the club have worse training conditions this year.

iii. *Ungdomsgrupperna har dåliga träningsförutsättningar i år.*  
youth team.DEF has bad training conditions.DEF in year  
*Vilka andra lag har också problem med det?*  
which other teams have also problem with that  
The youth team has bad training conditions this year. Which other  
teams also struggle with that?

b. *Target MP*

i. *Denna säsongen spelar visst damlaget på konstgräs.*  
this season.DEF play VISST woman team.DEF on artificial turf

ii. *Denna säsongen spelar damlaget visst på konstgräs.*  
this season.DEF play woman team.DEF VISST on artificial turf

This season the women's team plays on artificial turf.



c. *Target Adverb*

- i. *Denna säsongen spelar tyvärr damlaget på konstgräs.*  
this season.DEF play unfortunately woman team.DEF on  
artificial turf  
This season the women's team unfortunately plays on artificial turf.
- ii. *Denna säsongen spelar damlaget tyvärr på konstgräs.*  
this season.DEF play woman team.DEF unfortunately on  
artificial turf  
This season the women's team unfortunately plays on artificial turf.

(22) a. *Context*

- i. *Det tar lång tid att bli en mästare på att spela fiol*  
it takes long time to become a master on to play violin  
*och även då krävs mycket arbete för att hålla sig i form.*  
och also than takes much work for to keep REFLX in shape  
It takes a long time to become a master at playing the violin and  
even then does it take much work to maintain the skills.
- ii. *Alla medlemmar i orkestern tillbringar ofta många timmar om dagen med att öva på sina instrument.*  
all members in orchestra.DEF spend often many  
hours of day.DEF with to practice on POSS instruments  
All the members of the orchestra spend many hours each day to  
practice their instruments.
- iii. *Cellisten tillbringar ofta flera timmar om dagen med att öva på sitt instrument. Vilka andra musiker behöver öva mycket?*  
cellist.DEF spends often many hours of day.DEF with to  
practice on POSS instrument which other musicians need  
practice much  
The cellist spends many hours each day to practice his instrument.  
Which other musicians need a lot of practice?

b. *Target MP*

- i. *Innan en konsert repeterar nog violinisten flera dagar i sträck.*  
before a concert rehearse NOG violin player.DEF many days in  
line.
- ii. *Innan en konsert repeterar violinisten nog flera dagar i sträck.*  
before a concert rehearse violin player.DEF NOG many days in  
line.

Before a concert the violin player rehearses many days.

c. *Target Adverb*

- i. *Innan en konsert repeterar naturligtvis violinisten flera*  
before a concert rehearse naturally violin player.DEF many  
 *dagar i sträck.*  
days in line.  
Before a concert the violin player naturally rehearses many days.
- ii. *Innan en konsert repeterar violinisten naturligtvis flera*  
before a concert rehearse violin player.DEF naturally many  
 *dagar i sträck.*  
days in line.  
Before a concert the violin player naturally rehearses many days.

(23) a. *Context*

- i. *Efter en lång dag i laboratoriet är det skönt att få lite*  
after a long day in laboratoryDEF is it nice to have a bit  
 *frisk luft.*  
fresh air  
After a long day in the laboratory it is nice with some fresh air.
- ii. *Många som jobbar inomhus hela dagarna vill gärna få*  
many REL work indoors whole days.DEF want gladly have  
 *lite motion efter en lång dag på jobbet.*  
a bit exercise after a long day at work.DEF  
Many who work indoors the whole day want to get some exercise  
after a long day at work.
- iii. *Biologen vill gärna få lite motion efter en lång dag i*  
biologist.DEF wants gladly have a bit exercise after a long day in  
 *laboratoriet. Vem mer tycker om att röra på sig efter*  
laboratoryDEF who else likes about to move on REFLX after  
 *jobbet?*  
work.DEF  
The biologist wants to get some exercise after a long day in the  
laboratory. Who else likes to get some exercise after work?

b. *Target MP*

- i. *Efter dagens slut promenerar nog kemisten hem*  
after day.DEF.POSS end walks NOG chemist.DEF home  
 *genom parken.*  
through park.DEF
- ii. *Efter dagens slut promenerar kemisten nog hem*  
after day.DEF.POSS end walks chemist.DEF NOG home  
 *genom parken.*  
through park.DEF

After the end of the day the chemist walks home though the park.

c. *Target Adverb*

Efter dagens slut promenerar faktiskt kemisten hem genom parken.

- i. *Efter dagens slut promenerar faktiskt kemisten hem genom parken.*  
 after day.DEF.POSS end walks actually chemist.DEF home  
 through park.DEF

- ii. *Efter dagens slut promenerar kemisten faktiskt hem genom parken.*  
 after day.DEF.POSS end walks chemist.DEF actually home  
 through park.DEF

After the end of the day the chemist actually walks home though the park.

(24) a. *Context*

- i. *En stark sångröst behöver inte förstärkas vid uppträdanden.*  
 a strong voice needs not amplified at performances  
 A strong voice does not need to be amplified during performances.

- ii. *Många operasångare har så pass starka röster att de inte behöver förstärkas.*  
 many opera singers have such strong voices that they not  
 needs amplified  
 Many opera singers have such strong voices that they do not need to be amplified.

- iii. *Alten har en stark sångröst även utan förstärkning.*  
 alto.DEF has a strong singing voice even without amplification  
*Vem mer behöver ingen förstärkning?*  
 who else needs no amplification  
 The alto has a strong voice even without amplification. Who else needs no amplification?

b. *Target MP*

- i. *På konserter framträder nog sopranen utan mikrofon.*  
 on concerts appears NOG soprano.DEF without microphone
- ii. *På konserter framträder sopranen nog utan mikrofon.*  
 on concerts appears soprano.DEF NOG without microphone  
 At concerts the soprano appears without a microphone.

c. *Target Adverb*

- i. *På konserter framträder uppenbarligen sopranen utan*  
 on concerts appears apparently soprano.DEF without

*mikrofon.*  
microphone

- ii. *På konserter framträder sopranen uppenbarligen utan mikrofon.*  
on concerts appears soprano.DEF apparently without microphone  
At concerts the soprano apparently appears without a microphone.

(25) a. *Context*

- i. *I nödfall är det viktigt att rycka ut snabbt.*  
in emergencies is it important to respond out quickly  
It is important to respond very quickly in emergency situations.
- ii. *Alla som jobbar inom räddningstjänsten är ofta väldigt snabba med att rycka ut i nödfall.*  
all REL work in emergency services are often very quick with to respond out in emergencies  
All first responders are often very quick to respond in emergency situations.
- iii. *Brandkåren är snabba med att rycka ut efter larmsamtalet. Vilka andra reagerade också snabbt?*  
fire department.DEF is quick with to respond out after emergency call.DEF who else reacted also quickly  
The fire department was very quick to respond to the emergence call. Who else reacted quickly?

b. *Target MP*

- i. *Efter bilolyckan är nog ambulansförarna först på olycksplatsen.*  
after car accident.DEF are NOG paramedics.DEF first on accident site.DEF
- ii. *Efter bilolyckan är ambulansförarna nog först på olycksplatsen.*  
after car accident.DEF are paramedics.DEF NOG first on accident site.DEF  
After the car accident the paramedics are the first ones to reach the accident site.

c. *Target Adverb*

- i. *Efter bilolyckan är tydligen ambulansförarna först på olycksplatsen.*  
after car accident.DEF are apparently paramedics.DEF first on accident site.DEF

- ii. *Efter bilolyckan är ambulansförarna tydligen först på*  
 after car accident.DEF are paramedics.DEF apparently first on  
*olycksplatsen.*  
 accident site.DEF  
 After the car accident the paramedics apparently are the first ones  
 to reach the accident site.

(26) a. *Context*

- i. *Det är tråkigt att bara sitta inne och pyssla efter*  
 it is boring to only sit inside and do handicrafts after  
*skolan.*  
 school.DEF  
 It boring to sit inside and only do handicrafts after school.
- ii. *De flesta barn tycker ofta att det är tråkigt att sitta inne*  
 the most children find often that it is boring to sit inside  
*och pyssla efter skolan.*  
 and do handicrafts after school.DEF  
 Most children find it boring to sit inside and only do handicrafts  
 after school.
- iii. *Flickorna tycker ofta att det är tråkigt att sitta inne och*  
 girlsDEF find often that it is boring to sit inside and  
*pyssla efter skolan. Vilka andra barn tycker också*  
 do handicrafts after school.DEF which other children find also  
*det?*  
 that  
 The girls find it boring to sit inside and do handicrafts after school.  
 Which other children also find that so?

b. *Target MP*

- i. *På eftermiddagen leker visst pojkarna ute på gården.*  
 on afternoon play VISST boys.DEF out on yard.DEF
- ii. *På eftermiddagen leker pojkarna visst ute på gården.*  
 on afternoon play boys.DEF VISST out on yard.DEF  
 In the afternoon the boys play in the yard.

c. *Target Adverb*

- i. *På eftermiddagen leker förstås pojkarna ute på gården.*  
 on afternoon play of course boys.DEF out on yard.DEF
- ii. *På eftermiddagen leker pojkarna förstås ute på gården.*  
 on afternoon play boys.DEF of course out on yard.DEF  
 In the afternoon the boys of course play in the yard.

(27) a. *Context*

- i. *Komikerna som uppträder på den öppna scenen är ofta*  
 comedians.DEF REL perform on the open stage.DEF are often  
*väldigt omttyckta.*  
 very liked  
 The comedians who perform on the open stage are often very popular.
  - ii. *Premiärfolk är ofta på gott humör.*  
 premiere people are often on good mood  
 Premiere guests often are in a good mood.
  - iii. *Komikern är på gott humör i kväll. Vem mer njuter av*  
 comedian.DEF is on good mood in tonight who else enjoys of  
*kvällen?*  
 evening.DEF  
 The comedian is in a good mood tonight. Who else enjoys the evening?
- b. *Target MP*
- i. *Under föreställningen skrattar visst publiken hela*  
 during show.DEF laughs VISST audience.DEF whole  
*tiden.*  
 time.DEF
  - ii. *Under föreställningen skrattar publiken visst hela*  
 during show.DEF laughs audience.DEF VISST whole  
*tiden.*  
 time.DEF  
 During the show the audience laughs the entire time.
- c. *Target Adverb*
- i. *Under föreställningen skrattar uppenbarligen publiken hela*  
 during show.DEF laughs obviously audience.DEF whole  
*tiden.*  
 time.DEF
  - ii. *Under föreställningen skrattar publiken uppenbarligen hela*  
 during show.DEF laughs audience.DEF obviously whole  
*tiden.*  
 time.DEF  
 During the show the audience obviously laughs the entire time.
- (28) a. *Context*
- i. *Efter prisutdelningen bjuds det på fest i den*  
 after award ceremony.DEF invite.PASS lit on celebration in the  
*blå hallen.*  
 Blue Hall.

After the award ceremony there is a celebration in the Blue Hall.

- ii. *Efter prisutdelningen bjuds alla gäster på fest*  
 after award ceremony.DEF invite.PASS all guests on celebration  
*i den blå hallen.*  
 in the Blue Hall

After the award ceremony all the guests are invited to a celebration in the Blue Hall.

- iii. *Under festen efter prisutdelningen håller*  
 during celebrationDEF after award ceremony.DEF hold  
*styrelsemedlemmarna tal. Vilka andra brukar*  
 members of the board.DEF. speeches who else usually  
*framträda då?*  
 makes an appearance then

During the celebration after the award ceremony, the members of the board give speeches. Who else usually make an appearance then?

b. *Target MP*

- i. *Under middagen talar nog pristagarna i minst tio*  
 during dinner.DEF talk NOG laureates.DEF in at least ten  
*minuter var.*  
 minutes each.
- ii. *Under middagen talar pristagarna nog i minst tio*  
 during dinner.DEF talk laureates.DEF NOG in at least ten  
*minuter var.*  
 minutes each.

During the dinner the laureates talk for at least ten minutes each.

c. *Target Adverb*

- i. *Under middagen talar troligen pristagarna i minst tio*  
 during dinner.DEF talk probably laureatesDEF in at least ten  
*minuter var.*  
 minutes each.
- ii. *Under middagen talar pristagarna troligen i minst tio*  
 during dinner.DEF talk laureatesDEF probably in at least ten  
*minuter var.*  
 minutes each.

During the dinner the laureates probably talk for at least ten minutes each.

(29) a. *Context*

- i. *När det är stadsfest*                      *är det många konserter i*  
when it is town celebration.DEF are there many concerts in  
*stan.*  
town.DEF  
During the town celebrations there are many concerts in town.
  - ii. *Många musiker har fullt upp med spelningar när det är*  
many musicians have full up with concerts when it is  
*stadsfest.*  
town celebration  
Many musicians are fully booked with concerts when there is a town  
celebration.
  - iii. *Symfonieorkestern har ofta många konserter på*  
orchestra.DEF has often many concerts on  
*stadsfesten. Vilka andra musiker brukar ha fullt upp*  
town celebration which other musicians usually have full up  
*då?*  
then  
The orchestra often give many concerts during the town celebration.  
Which other musicians are usually fully booked then?
- b. *Target MP*
- i. *Under kulturveckorna uppträder nog trubaduren varje dag.*  
during cultural festival.DEF perform NOG singer.DEF each day.
  - ii. *Under kulturveckorna uppträder trubaduren nog varje dag.*  
during cultural festival.DEF perform singer.DEF NOG each day.  
The singer performs each day during the culture festival.
- c. *Target Adverb*
- i. *Under kulturveckorna uppträder givetvis trubaduren varje*  
during cultural festival.DEF perform of course singer.DEF each  
*dag.*  
day.
  - ii. *Under kulturveckorna uppträder trubaduren givetvis varje*  
during cultural festival.DEF perform singer.DEF of course each  
*dag.*  
day.  
The singer of course performs each day during the culture festival.
- (30) a. *Context*
- i. *Just nu pågår det en konferens om de nyaste*  
just now precedes there a conference about the newest  
*forskningsrönen inom neurokirurgi.*  
research.DEF within neurosurgery



At the moment there is a conference about the latest research in neurosurgery.

- ii. *Alla läkare på sjukhuset deltar i en konferens*  
all physicians at hospital.DEF participate in a conference  
*om de nyaste forskningsrönen.*  
about the newest research.DEF

All physicians at the hospital participate in a conference about the latest research.

- iii. *Ortopederna samlas för att prata om de nyaste*  
orthopedists.DEF gather for to speak about the newest  
*forskningsrönen i detalj. Vilka andra läkare pratar mer*  
research.DEF in detail which other physicians talk more  
*om detta?*  
about this

The orthopedists gather to talk about the latest research. Which other physicians also do that?

b. *Target MP*

- i. *Efter tre föredrag diskuterar visst hjärnkirurgerna i*  
after three talks discuss VISST neurosurgeons.DEF in  
*mindre arbetsgrupper.*  
smaller working groups
- ii. *Efter tre föredrag diskuterar hjärnkirurgerna visst i*  
after three talks discuss neurosurgeons.DEF VISST in  
*mindre arbetsgrupper.*  
smaller working groups

After three talks the neurosurgeons discuss in smaller working groups.

c. *Target Adverb*

- i. *Efter tre föredrag diskuterar troligen hjärnkirurgerna i*  
after three talks discuss probably neurosurgeons.DEF in  
*mindre arbetsgrupper.*  
smaller working groups
- ii. *Efter tre föredrag diskuterar hjärnkirurgerna troligen i*  
after three talks discuss neurosurgeons.DEF probably in  
*mindre arbetsgrupper.*  
smaller working groups

After three talks the neurosurgeons probably discuss in smaller working groups.

(31) a. *Context*

- i. *Det är svårt att koncentrera sig på skolundervisningen*  
it is difficult to focus REFLX on school teaching.DEF  
*nu för tiden.*  
now for time.DEF  
It is difficult to focus on the teaching in school nowadays.
- ii. *Många elever har problem med att koncentrera sig på*  
many pupils have problems with to focus REFLX on  
*undervisningen nu för tiden.*  
teaching.DEF now for time.DEF  
Many pupils have difficulties to focus on the teaching nowadays
- iii. *Elevassistenterna kan inte koncentrera sig på*  
teacher assistants.DEF can not focus REFLX on  
*undervisningen. Vilka andra har svårt för det?*  
teaching which other have difficult for that  
The teacher assistants cannot focus on teaching. Who else have  
difficulties doing so?

b. *Target MP*

- i. *På lektionerna pratar visst ungdomarna hela tiden.*  
on classes.DEF talk VISST youngsters.DEF whole time.
- ii. *På lektionerna pratar ungdomarna visst hela tiden.*  
on classes.DEF talk youngsters.DEF VISST whole time.  
During the classes the youngsters talk the entire time.

c. *Target Adverb*

- i. *På lektionerna pratar kanske ungdomarna hela tiden.*  
on classes.DEF talk maybe youngsters.DEF whole time.
- ii. *På lektionerna pratar ungdomarna kanske hela tiden.*  
on classes.DEF talk youngsters.DEF maybe whole time.  
During the classes the youngsters maybe talk the entire time.

(32) a. *Context*

- i. *På förmiddagen är det oftast lugnt på sjukhuset.*  
on morning.DEF is it often calm at hospital.DEF  
In the morning it is usually calm at the hospital.
- ii. *All sjukhuspersonal har mycket att stå i på förmiddagarna.*  
all hospital staff have much to stand in on mornings.DEF  
All the hospital staff has much work to to in the mornings.
- iii. *Läkarsekreterarna har mycket pappersarbete att göra på*  
medical secretaries.DEF have much paper work to do at  
*förmiddagen. Vilken andra är upptagna med det?*  
morning.DEF who else is busy with that

The medical secretaries have much paper work to do in the mornings. Who else is busy doing that?

b. *Target MP*

i. *Efter morgonronden arbetar nog läkaren vid*  
 after morning round.DEF works NOG physician.DEF at  
*skrivbordet.*  
 desk.DEF

ii. *Efter morgonronden arbetar läkaren nog vid*  
 after morning round.DEF works physician.DEF NOG at  
*skrivbordet.*  
 desk.DEF

After the morning round the physician works at the desk.

c. *Target Adverb*

i. *Efter morgonronden arbetar förmodligen läkaren vid*  
 after morning round.DEF works probably physician.DEF at  
*skrivbordet.*  
 desk.DEF

ii. *Efter morgonronden arbetar läkaren förmodligen vid*  
 after morning round.DEF works physician.DEF probably at  
*skrivbordet.*  
 desk.DEF

After the morning round the physician probably works at the desk.

(33) a. *Context*

i. *På ridskolan får man inte rida ut på egen hand.*  
 on riding school.DEF may one not ride outside on own hand  
 At the riding school no one is allowed to ride outdoors on their own.

ii. *Ingen av de yngre eleverna på ridskolan får rida*  
 none of the younger students.DEF on riding school.DEF may ride  
*ut på egen hand.*  
 outside on own hand  
 None of the younger students at the riding school are allowed to  
 ride outdoors on their own.

iii. *De yngsta av ridskolans elever får inte rida*  
 the youngest of riding school.DEF.POSS students may not ride  
*ut på egen hand. Vilka andra behöver hållas under*  
 outside on own hand who else needs keeping unter  
*uppsikt?*  
 supervision

The youngest students at riding school are not allowed to ride out-  
 doors on their own. Who else needs to be supervised?

b. *Target MP*

- i. *Under de första lektionerna rider nog nybörjarna i*  
 during the first lessons ride NOG beginners.DEF in  
*manegen.*  
 riding hall.DEF
- ii. *Under de första lektionerna rider nybörjarna nog i*  
 during the first lessons ride beginners.DEF NOG in  
*manegen.*  
 riding hall.DEF  
 During the first lessons the beginners ride in the riding hall.

c. *Target Adverb*

- i. *Under de första lektionerna rider självfallet nybörjarna i*  
 during the first lessons ride of course beginners.DEF in  
*manegen.*  
 riding hall.DEF
- ii. *Under de första lektionerna rider nybörjarna självfallet i*  
 during the first lessons ride beginners.DEF of course in  
*manegen.*  
 riding hall.DEF  
 During the first lessons the beginners of course ride in the riding  
 hall.

(34) a. *Context*

- i. *Många är väldigt nervösa inför bröllop.*  
 many are very nervous before weddings  
 The groom is very nervous before the wedding.
- ii. *Alla brudpar brukar vara väldigt nervösa inför*  
 all bridal couples usually are very nervous before  
*bröllopet.*  
 wedding.DEF  
 The groom is very nervous before the wedding. All bridal couples  
 usually are.
- iii. *Bruden är pirrig i magen inför bröllopet. Vem*  
 bride.DEF is very nervous before wedding.DEF who else  
*mer är väldigt nervös?*  
 is very nervous  
 The bride is very nervous before the wedding. Who else is very  
 nervous?

b. *Target MP*

i. *Innan vigseln svimmar visst brudgummen utanför*  
 before ceremony.DEF faints VISST groom.DEF in front of  
*kyrkan.*  
 church.DEF

ii. *Innan vigseln svimmar brudgummen visst utanför*  
 before ceremony.DEF faints groom.DEF VISST in front of  
*kyrkan.*  
 church.DEF

Before the ceremony the groom faints in front of the church.

c. *Target Adverb*

i. *Innan vigseln svimmar tyvärr brudgummen*  
 before ceremony.DEF faints unfortunately groom.DEF  
*utanför kyrkan.*  
 in front of church.DEF

ii. *Innan vigseln svimmar brudgummen tyvärr*  
 before ceremony.DEF faints groom.DEF unfortunately  
*utanför kyrkan.*  
 in front of church.DEF

Before the ceremony the groom unfortunately faints in front of the church.

(35) a. *Context*

i. *Det är riskfyllt att utföra hantverksarbeten utomhus på*  
 it is risky to perform construction work outdoors on  
*vintern.*  
 winter.DEF

It is risky to do construction work outdoors in the winter.

ii. *Det är riskfyllt att utföra hantverksarbeten utomhus på*  
 it is risky to perform construction work outdoors on  
*vintern. Det är det för alla byggarbetare.*  
 winter.DEF that is it for all construction workers

It is risky to work outdoors in the winter for the roofers. It is for all construction workers.

iii. *Sotarna har ett riskfyllt arbete på vintern. Vem*  
 chimney sweeper.DEF has a risky work on winter.DEF who  
*mer har det?*  
 else has that

The chimney sweeper has a risky work outdoors in the winter. Who else has that?

b. *Target MP*

- i. *När det är minusgrader halkar nog takläggarna på isfläckar.*  
when it is minus degrees slip NOG roofers.DEF on ice patches
- ii. *När det är minusgrader halkar takläggarna nog på isfläckar.*  
when it is minus degrees slip roofers.DEF NOG on ice patches

When it is below zero the roofers slip on ice patches.

c. *Target Adverb*

- i. *När det är minusgrader halkar kanske takläggarna på isfläckar.*  
when it is minus degrees slip perhaps roofers.DEF on ice patches
  - ii. *När det är minusgrader halkar takläggarna kanske på isfläckar.*  
when it is minus degrees slip roofers.DEF perhaps on ice patches
- When it is below zero the roofers perhaps slip on ice patches.

(36) a. *Context*

- i. *Det sitta ofta stilla för mycket på jobbet.*  
it sits often still to much on job.DEF  
There usually is too much sitting down at work.
- ii. *Nästan alla som jobbar på kontor sitter stilla för mycket.*  
almost all REL work in office sits still too much  
Almost everyone who works in an office are sitting down to much.
- iii. *Programmeraren motionerar gärna efter jobbet. Vem mer tycker om att röra på sig varje dag?*  
programmer.DEF exercise gladly after work, who else likes to move on REFL each day  
The programmer likes to exercise after work. Who else likes to exercise each day?

b. *Target MP*

- i. *Efter en lång arbetsdag joggar nog ingenjören runt sjön.*  
after a long working day jogs NOG engineer.DEF round lake.DEF
- ii. *Efter en lång arbetsdag joggar ingenjören nog runt*  
after a long working day jogs engineer.DEF NOG round

*sjön.*

lake.DEF

After a long working day the engineer jogs around the lake.

c. *Target Adverb*

- i. *Efter en lång arbetsdag joggar självfallet ingenjören runt*  
 after a long working day jogs of course engineer.DEF round  
*sjön.*  
 lake.DEF

- ii. *Efter en lång arbetsdag joggar ingenjören självfallet runt*  
 after a long working day jogs engineer.DEF of course round  
*sjön.*  
 lake.DEF  
 After a long working day the engineer of course jogs around the lake.

## A.5. Experiment 5: Mono and bisyllabic object pronouns and ju/väl

In the following listing of items, the contexts given in (a): example (i) represents the context which will be followed by a target with an monosyllabic pronoun, (ii) the context with a bisyllabic pronoun. In the targets in (b), (i) shows the target with a MP and a monosyllabic pronoun, and (ii) the target with a MP and a bisyllabic pronoun. The target in (c) shows the monosyllabic (i) and bisyllabic (ii) target with sentence adverbs, i.e. context (i) appeared with target (b:i) or (c:i), context (ii) with target (b:ii) or (c:ii).

(1) a. *Context*

- i. *Varför tycker du inte om hunden?*  
 why find you not about dog.DEF  
 Why don't you like the dog?
- ii. *Varför tycker inte pojken om hunden?*  
 why find boy not about dog.DEF  
 Why doesn't the boy like the dog?

b. *Traget MP*

- i. *Den bet <mig> ju <mig> i armen.*  
 it bit me JU me on arm.DEF  
 It bit me in the arm.

- ii. *Den bet ⟨honom⟩ ju ⟨honom⟩ i armen.*  
it bit him JU him on arm.DEF  
It bit him in the arm.

c. *Target adverb*

- i. *Den bet ⟨mig⟩ faktiskt ⟨mig⟩ i armen.*  
it bit me indeed me on arm.DEF  
It did indeed bite me in the arm.
- ii. *Den bet ⟨honom⟩ faktiskt ⟨honom⟩ i armen.*  
it bit him indeed him on arm.DEF  
It did indeed bite him in the arm.

(2) a. *Context*

- i. *Varför kan pappan inte äta lunch med er?*  
why can father.DEF not eat lunch with you  
Why can't the father have lunch with you?
- ii. *Varför kan pappan inte äta lunch med dottern?*  
why can father.DEF not eat lunch with daughter.DEF  
Why can't the father have lunch with the daughter?

b. *Target MP*

- i. *Han hämtar ⟨oss⟩ väl ⟨oss⟩ klockan tre.*  
he pick up us VÄL us clock three  
He picks us up at three o'clock.
- ii. *Han hämtar ⟨henne⟩ väl ⟨henne⟩ klockan tre.*  
he pick up us VÄL us clock three  
He picks her up at three o'clock.

c. *Target Adverb*

- i. *Han hämtar ⟨oss⟩ troligtvis ⟨oss⟩ klockan tre.*  
he pick up us probably us clock three  
He probably picks us up at three o'clock.
- ii. *Han hämtar ⟨henne⟩ troligtvis ⟨henne⟩ klockan tre.*  
he pick up her probably her clock three  
He probably picks her up at three o'clock.

(3) a. *Context*

- i. *Varför hälsar tidningsförsäljaren på dig?*  
why greet newspaperman.DEF on you?  
Why does the newspaper man greet you?
- ii. *Varför hälsar kvinnan på tidningsförsäljaren?*  
why greet woman.DEF on newspaperman.DEF?  
Why does the woman greet the newspaper man?



b. *Traget MP*

- i. *Hon ser < mig > väl < mig > varje dag.*  
she sees me VÄL me every day  
he sees me every day.
- ii. *Hon ser < honom > väl < honom > varje dag.*  
she sees him VÄL him every day  
She sees him every day.

c. *Traget Adverb*

- i. *Hon ser < mig > säkert < mig > varje dag.*  
she sees me PROBABLY me every day  
She probably sees me every day.
- ii. *Hon ser < honom > säkert < honom > varje dag.*  
she sees him PROBABLY him every day  
She probably sees him every day.

(4) a. *Context*

- i. *Varför är jobbet som journalist viktigt för era karriärer*  
why is job.DEF as journalists important for your careers  
*som författare?*  
as writers  
Why is the job as journalists important for your careers as writers
- ii. *Varför är jobbet som journalist viktigt för författarens*  
why is job.DEF as journalists important for writers.DEF.PL  
*karriär?*  
career  
Why is the job as journalists important to the writer's career?

b. *Traget MP*

- i. *Det inspirerar < oss > ju < oss > till spännande berättelser.*  
it inspires us JU us to exiting stories  
It inspires us to write exiting stories.
- ii. *Det inspirerar < henne > ju < henne > till spännande berättelser.*  
it inspires her JU her to exiting stories  
It inspires her to write exiting stories.

c. *Traget Adverb*

- i. *Det inspirerar < oss > verkligen < oss > till spännande berättelser.*  
it inspires us really us to exiting stories  
It really inspires us to write exiting stories.

- ii. *Det inspirerar <henne> verkligen <henne> till spännande berättelser.*  
it inspires her really her to exiting stories  
It really inspires her to write exiting stories.

(5) a. *Context*

- i. *Varför vet Eva så mycket om dig?*  
why knows Eve so much about you  
Why does Eve know so much about you?
- ii. *Varför vet Eva så mycket om Per?*  
why knows Eve so much about Per  
Why does Eve know so much about Per?

b. *Traget MP*

- i. *Hon förföljer <mig> ju <mig> sedan en vecka.*  
she stalks me JU me since one week  
She has been stalking me for one week.
- ii. *Hon förföljer <honom> ju <honom> sedan en vecka.*  
she stalks him JU him since one week  
She has been stalking him for one week.

c. *Traget Adverb*

- i. *Hon förföljer <mig> uppenbarligen <mig> sedan en vecka.*  
she stalks me obviously me since one week  
She has obviously been stalking me for one week.
- ii. *Hon förföljer <honom> uppenbarligen <honom> sedan en vecka.*  
she stalks him obviously him since one week  
She has obviously been stalking him for one week.

(6) a. *Context*

- i. *Varför försökte du tysta damen i publiken?*  
why tried you quiet lady.DEF in audience.DEF  
Why did you try to make the lady in the audience quiet?
- ii. *Varför försökte komikern tysta damen i publiken?*  
why tried comic.DEF quiet lady.DEF in audience.DEF  
Why did you try to make the lady in the audience quiet?

b. *Traget MP*

- i. *Hon överröstade <mig> väl <mig> under föreställningen.*  
she was louder than me VÄL me during show.DEF  
She was louder than me during the show.

- ii. *Hon överröstade*      *⟨honom⟩ väl ⟨honom⟩ under*  
 she was louder than him      VÄL him      during  
*föreställningen.*  
 show.DEF  
 She was louder than him during the show.

c. *Traget Adverb*

- i. *Hon överröstade*      *⟨mig⟩ möjligtvis ⟨mig⟩ under*  
 she was louder than me      possibly me      during  
*föreställningen.*  
 show.DEF  
 She was possibly louder than me during the show.
- ii. *Hon överröstade*      *⟨honom⟩ möjligtvis ⟨honom⟩ under*  
 she was louder than him      possibly him      during  
*föreställningen.*  
 show.DEF  
 She was possibly louder than him during the show.

(7) a. *Context*

- i. *Varför ropar ni på Ada när ni går upp ur sjön?*  
 why call you on Ada when you go up out of sea.DEF  
 Why do you call for Ada when you go out of the sea?
- ii. *Varför ropar Karl på Ada när han går upp ur sjön?*  
 why call Karl on Ada when he go up out of sea.DEF  
 Why does Karl call for Ada when he goes out of the sea?

b. *Traget MP*

- i. *Hon torkar ⟨oss⟩ väl ⟨oss⟩ efter badet.*  
 she dries us VÄL us after bath.DEF  
 She dries us after the bath.
- ii. *Hon torkar ⟨honom⟩ väl ⟨honom⟩ efter badet.*  
 she dries him VÄL him after bath.DEF  
 She dries him after the bath.

c. *Traget Adverb*

- i. *Hon torkar ⟨oss⟩ garanterat ⟨oss⟩ efter badet.*  
 she dries us surely us after bath.DEF  
 She dries us after the bath.
- ii. *Hon torkar ⟨honom⟩ garanterat ⟨honom⟩ efter badet.*  
 she dries him surely him after bath.DEF  
 Surely, she dries him after the bath.

(8) a. *Context*

- i. *Varför visste Peter att vi också sett filmen?*  
 why knew Peter that we also seen movie.DEF  
 Why did Peter know that we also had seen the movie?
  - ii. *Varför visste Peter att Anna också sett filmen?*  
 why knew Peter that Anna also seen movie.DEF  
 Why did Peter know that Anna also had seen the movie?
  - b. *Traget MP*
    - i. *Han träffade ⟨oss⟩ väl ⟨oss⟩ på bion.*  
 he met us VÄL us on theatre.DEF  
 He met us at the theatre.
    - ii. *Han träffade ⟨henne⟩ väl ⟨henne⟩ på bion.*  
 he met her VÄL her on theatre.DEF  
 He met her at the theatre.
  - c. *Traget Adverb*
    - i. *Han träffade ⟨oss⟩ självklart ⟨oss⟩ på bion.*  
 he met us of course us on theatre.DEF  
 Of course, he met us at the theatre.
    - ii. *Han träffade ⟨henne⟩ självklart ⟨henne⟩ på bion.*  
 he met her of course her on theatre.DEF  
 Of course, he met her at the theatre.
- (9) a. *Context*
- i. *Varför är du rädd för katten?*  
 why are you afraid of cat.DEF  
 Why are you afraid of the cat?
  - ii. *Varför är flickan rädd för katten?*  
 why is girl.DEF afraid of cat.DEF  
 Why is the girl afraid of the cat?
  - b. *Target MP*
    - i. *Den rev ⟨mig⟩ ju ⟨mig⟩ på handen.*  
 it scratched me JU me on hand.DEF  
 It scratched me on the hand.
    - ii. *Den rev ⟨henne⟩ ju ⟨henne⟩ på handen.*  
 it scratched her JU her on hand.DEF  
 It scratched her on the hand.
  - c. *Target Adverb*
    - i. *Den rev ⟨mig⟩ tyvärr ⟨mig⟩ på handen.*  
 it scratched me unfortunately me on hand.DEF  
 It unfortunately scratched me on the hand.

- ii. *Den rev*            *⟨henne⟩ tyvärr*            *⟨henne⟩ på handen.*  
 it    scratched her            unfortunately her            on hand.DEF  
 It unfortunately scratched her on the hand.

(10) a. *Context*

- i. *Varför tackade ni Maria?*  
 why    thanked you.PL Maria  
 Why did you thank Maria?
- ii. *Varför tackade Johan Maria?*  
 why    thanked Johan Maria  
 Why did Johan thank Maria?

b. *Target MP*

- i. *Hon nämnde ⟨oss⟩ väl ⟨oss⟩ i tacktalet.*  
 she    mentioned us    VÄL us    in acceptance speech.DEF  
 She mentioned us in the acceptance speech.
- ii. *Hon nämnde ⟨honom⟩ väl ⟨honom⟩ i tacktalet.*  
 she    mentioned him    VÄL him    in acceptance speech.DEF  
 She mentioned him in the acceptance speech.

c. *Target Adverb*

- i. *Hon nämnde ⟨oss⟩ givetvis ⟨oss⟩ i tacktalet.*  
 she    mentioned us    of course us    in acceptance speech.DEF  
 Of course she mentioned us in the acceptance speech.
- ii. *Hon nämnde ⟨honom⟩ givetvis ⟨honom⟩ i*  
 she    mentioned him    of course him    in  
*tacktalet.*  
 acceptance speech.DEF  
 Of course she mentioned him in the acceptance speech.

(11) a. *Context*

- i. *Varför springer ni ifrån Ulf ?*  
 why    run            you from Ulf  
 Why are you running from Ulf?
- ii. *Varför springer Karin ifrån Ulf ?*  
 why    run            Karin from Ulf  
 Why is Karin running from Ulf?

b. *Target MP*

- i. *Han jagar ⟨oss⟩ ju ⟨oss⟩ med tennisraketet.*  
 he    hunts us    JU us    with racket.DEF  
 He hunts us with the tennis racket.

- ii. *Han jagar ⟨henne⟩ ju ⟨henne⟩ med tennisraketet.*  
he hunts her JU her with racket.DEF  
He hunts her with the tennis racket.
- c. *Target Adverb*
  - i. *Han jagar ⟨oss⟩ självfallet ⟨oss⟩ med tennisraketet.*  
he hunts us of course us with racket.DEF  
Of course, he hunts us with the tennis racket.
  - ii. *Han jagar ⟨henne⟩ självfallet ⟨henne⟩ med tennisraketet.*  
he hunts her of course her with racket.DEF  
Of course, he hunts her with the tennis racket.

(12) a. *Context*

- i. *Varför fick Mark skäll av dig?*  
why received Mark scolding by you  
Why did Mark receive scolding from you?
- ii. *Varför fick Mark skäll av Johanna?*  
why received Mark scolding by Johanna  
Why did Johanna receive scolding from you?

b. *Target MP*

- i. *Han sparkade ⟨mig⟩ ju ⟨mig⟩ på benet.*  
he kicked me JU me on leg.DEF  
He kicked me on the leg.
- ii. *Han sparkade ⟨henne⟩ ju ⟨henne⟩ på benet.*  
he kicked her JU her on leg.DEF  
He kicked her on the leg.

c. *Target Adverb*

- i. *Han sparkade ⟨mig⟩ onekligen ⟨mig⟩ på benet.*  
he kicked me undeniably me on leg.DEF  
He undeniably kicked me on the leg.
- ii. *Han sparkade ⟨henne⟩ onekligen ⟨henne⟩ på benet.*  
he kicked her undeniably her on leg.DEF  
He undeniably kicked her on the leg.

(13) a. *Context*

- i. *Varför sjunger Karin för dig?*  
why sings Karin for you  
Why does Karin sing for you?
- ii. *Varför sjunger Karin för Pelle?*  
why sings Karin for Pelle  
Why does Karin sing for Pelle?

b. *Target MP*

- i. *Hon uppvaktar*    *⟨mig⟩ ju ⟨mig⟩ på födelsedagen.*  
she congratulates me    JU me    on birthday.DEF  
She congratulates me on my birthday.
- ii. *Hon uppvaktar*    *⟨honom⟩ ju ⟨honom⟩ på födelsedagen.*  
she congratulates him    JU him    on birthday.DEF  
She congratulates him on his birthday.

c. *Target Adverb*

- i. *Hon uppvaktar*    *⟨mig⟩ naturligtvis ⟨mig⟩ på födelsedagen.*  
she congratulates me    of course    me    on birthday.DEF  
She congratulates me on my birthday.
- ii. *Hon uppvaktar*    *⟨honom⟩ naturligtvis ⟨honom⟩ på födelsedagen.*  
she congratulates him    of course    him    on birthday.DEF

She congratulates him on his birthday.

(14) a. *Context*

- i. *Varför vinkade dommaren åt ditt håll?*  
why    waved    judge    at your direction  
Why did the judge wave in your direction?
- ii. *Varför vinkade dommaren åt flickan?*  
why    waved    judge    at girl.DEF  
Why did the judge wave in the direction of the girl?

b. *Target MP*

- i. *Han varnade ⟨mig⟩ väl ⟨mig⟩ efter tacklingen.*  
he    warned    me    VÄL me    after tackling.DEF  
He warned me after the tackle.
- ii. *Han varnade ⟨henne⟩ väl ⟨henne⟩ efter tacklingen.*  
he    warned    her    VÄL her    after tackling.DEF  
He warned her after the tackle.

c. *Target Adverb*

- i. *Han varnade ⟨mig⟩ troligen ⟨mig⟩ efter tacklingen.*  
he    warned    me    probably me    after tackling.DEF  
He probably warned me after the tackle.
- ii. *Han varnade ⟨henne⟩ troligen ⟨henne⟩ efter tacklingen.*  
he    warned    her    probably her    after tackling.DEF  
He probably warned her after the tackle.

- (15) a. *Context*
- i. *Varför var ni sura på Katrin?*  
 why were you mad at Katrin  
 Why were you mad at Katrin?
  - ii. *Varför var Filip sur på Katrin?*  
 why was Filip mad at Katrin  
 Why was Filip mad at Katrin?
- b. *Target MP*
- i. *Hon vilseledde ⟨oss⟩ väl ⟨oss⟩ med lögner.*  
 she deceived us VÄL us with lies  
 She deceived us with lies.
  - ii. *Hon vilseledde ⟨honom⟩ väl ⟨honom⟩ med lögner.*  
 she deceived him VÄL him with lies  
 She deceived him with lies.
- c. *Target Adverb*
- i. *Hon vilseledde ⟨oss⟩ antagligen ⟨oss⟩ med lögner.*  
 she deceived us probably us with lies  
 She probably deceived us with lies.
  - ii. *Hon vilseledde ⟨honom⟩ antagligen ⟨honom⟩ med lögner.*  
 she deceived him probably him with lies  
 She probably deceived us with lies.
- (16) a. *Context*
- i. *Varför var ni så otrevliga mot hyresvärden?*  
 why were you so impolite against land lord.DEF  
 Why were you so impolite to the land lord?
  - ii. *Varför var kvinnan så otrevlig mot hyresvärden?*  
 why was woman.DEF so impolite against land lord.DEF  
 Why was the woman so impolite to the land lord?
- b. *Target MP*
- i. *Han vräkte ⟨oss⟩ ju ⟨oss⟩ från hyreslägenheten.*  
 he evicted us JU us from apartment.DEF  
 He evicted us from the apartment.
  - ii. *Han vräkte ⟨henne⟩ ju ⟨henne⟩ från hyreslägenheten.*  
 he evicted her JU her from apartment.DEF  
 He evicted her from the apartment.
- c. *Target Adverb*



- i. *Han vräkte* ⟨*oss*⟩ *förstår* ⟨*oss*⟩ *från hyreslägenheten*.  
 he evicted us of course us from apartment.DEF  
 Of course, he evicted us from the apartment.
- ii. *Han vräkte* ⟨*henne*⟩ *förstår* ⟨*henne*⟩ *från hyreslägenheten*.  
 he evicted her of course her from apartment.DEF  
 Of course, he evicted her from the apartment.

(17) a. *Context*

- i. *Varför polisanmäler du grannfrun?*  
 why report to police you neighbour lady.DEF  
 Why did you report the neighbour to the police?
- ii. *Varför polisanmäler mannen grannfrun?*  
 why report to police man.DEF neighbour lady.DEF  
 Why did the man report the neighbour to the police?

b. *Target MP*

- i. *Hon hotade* ⟨*mig*⟩ *ju* ⟨*mig*⟩ *med en pistol*.  
 she threatened me JU me with a gun  
 She threatened me with a gun.
- ii. *Hon hotade* ⟨*honom*⟩ *ju* ⟨*honom*⟩ *med en pistol*.  
 she threatened him JU him with a gun  
 She threatened him with a gun.

c. *Target Adverb*

- i. *Hon hotade* ⟨*mig*⟩ *bevisligen* ⟨*mig*⟩ *med en pistol*.  
 she threatened me evidently me with a gun  
 Evidently, she threatened me with a gun.
- ii. *Hon hotade* ⟨*honom*⟩ *bevisligen* ⟨*honom*⟩ *med en pistol*.  
 she threatened him evidently him with a gun  
 Evidently, she threatened him with a gun.

(18) a. *Context*

- i. *Varför får pojken skäll av dig?*  
 why received boy.DEF scolding by you  
 Why does the boy receive scolding from you?
- ii. *Varför får pojken skäll av mamman?*  
 why received boy.DEF scolding by mother.DEF  
 Why does the boy receive scolding by the mother?

b. *Target MP*

- i. *Han stör* ⟨*mig*⟩ *väl* ⟨*mig*⟩ *med sina frågor*.  
 he bothers me VÄL me with his questions  
 He bothers me with his questions.

- ii. *Han stör*      *⟨henne⟩ väl ⟨henne⟩ med sina frågor.*  
he   bothers her      VÄL her      with his   questions  
He bothers her with his questions.

c. *Target Adverb*

- i. *Han stör*      *⟨mig⟩ möjligen ⟨mig⟩ med sina frågor.*  
he   bothers me   probably me   with his   questions  
He probably bothers me with his questions.
- ii. *Han stör*      *⟨henne⟩ möjligen ⟨henne⟩ med sina frågor.*  
he   bothers her   probably her   with his   questions  
He probably bothers her with his questions.

(19) a. *Context*

- i. *Varför får*      *du inte vara i köket*      *när Anna lagar*  
why   allowed you not be   in kitchen.DEF when Anna cooks  
*mat?*  
food?  
Why are you not allowed in the kitchen when Anna is preparing food?
- ii. *Varför får*      *Tom inte vara i köket*      *när Anna lagar*  
why   allowed Tom not be   in kitchen.DEF when Anna cooks  
*mat?*  
food?  
Why is Tome not allowed in the kitchen when Anna is preparing food?

b. *Target MP*

- i. *Hon överraskar ⟨mig⟩ väl ⟨mig⟩ med efterrätt.*  
she surprise   me   VÄL me   with dessert  
She might surprise me with dessert.
- ii. *Hon överraskar ⟨honom⟩ väl ⟨honom⟩ med efterrätt.*  
she surprise   him   VÄL him   with dessert  
She might surprise him with dessert.

c. *Target Adverb*

- i. *Hon överraskar ⟨mig⟩ förhoppningsvis ⟨mig⟩ med efterrätt.*  
she surprise   me   hopefully   me   with dessert  
Hopefully, she will surprise me with dessert.
- ii. *Hon överraskar ⟨honom⟩ förhoppningsvis ⟨honom⟩ med efterrätt.*  
she surprise   him   förhoppningsvis him   with dessert  
Hopefully, she will surprise him with dessert.

(20) a. *Context*

- i. *Varför talar Margareta i så brysk ton med er?*  
 why speaks Margareta in such harsh tone with you  
 Why does Margareta speak in such a harsh tone with you?
  - ii. *Varför talar Margareta i så brysk ton med Jonas?*  
 why speaks Margareta in such harsh tone with Jonas  
 Why does Margareta speak in such a harsh tone with Jonas?
  - b. *Target MP*
    - i. *Hon tillrättavisar <oss> ju <oss> efter buset.*  
 she reprimands us JU us after trick.DEF  
 She reprimands us after the trick.
    - ii. *Hon tillrättavisar <honom> ju <honom> efter buset.*  
 she reprimands him JU him after trick.DEF  
 She reprimands him after the trick.
  - c. *Target Adverb*
    - i. *Hon tillrättavisar <oss> tydligen <oss> efter buset.*  
 she reprimands us obviously us after trick.DEF  
 Obviously, she reprimands us after the trick.
    - ii. *Hon tillrättavisar <honom> tydligen <honom> efter buset.*  
 she reprimands him obviously him after trick.DEF  
 Obviously, she reprimands him after the trick.
- (21)
- a. *Context*
    - i. *Varför visste Lars att ni inte är i skolan?*  
 why knew Lars that you not are in school.DEF  
 Why did Lars know that you weren't in school?
    - ii. *Varför visste Lars att Lisa inte är i skolan?*  
 why knew Lars that Lisa not are in school.DEF  
 Why did Lars know that Lisa wasn't in school?
  - b. *Target MP*
    - i. *Han mötte <oss> ju <oss> på stan.*  
 he met us JU us on town.DEF  
 He met us in town.
    - ii. *Han mötte <henne> ju <henne> på stan.*  
 he met her JU her on town.DEF  
 He met her in town.
  - c. *Target Adverb*
    - i. *Han mötte <oss> sannolikt <oss> på stan.*  
 he met us likely us on town.DEF  
 It is likely that he met us in town.

- ii. *Han mötte <henne> sannolikt <henne> på stan.*  
 he met her likely her on town.DEF  
 It is likely that he met her in town.

(22) a. *Context*

- i. *Varför träffar ni läraren efter skolan?*  
 why meet you teacher.DEF after school.DEF  
 Why do you meet the teacher after school?
- ii. *Varför träffar eleven läraren efter skolan?*  
 why meet pupil.DEF teacher.DEF after school.DEF  
 Why does the pupil meet the teacher after school?

b. *Target MP*

- i. *Läraren hjälper <oss> ju <oss> med läxorna.*  
 teacher.DEF helps us JU us with home work.DEF  
 The teacher helps us with the home work.
- ii. *Läraren hjälper <honom> ju <honom> med läxorna.*  
 teacher.DEF helps him JU him with home work.DEF  
 The teacher helps him with the home work.

c. *Target Adverb*

- i. *Läraren hjälper <oss> förmodligen <oss> med läxorna.*  
 teacher.DEF helps us probably us with home work.DEF  
 The teacher probably helps us with the home work.
- ii. *Läraren hjälper <honom> förmodligen <honom> med läxorna.*  
 teacher.DEF helps him probably him with home work.DEF  
 The teacher probably helps him with the home work.

(23) a. *Context*

- i. *Varför fnissade ni när Erik skrattade?*  
 why laughed you when Erik laughed  
 Why did you laugh when Erik laughed?
- ii. *Varför fnissade Eva när Erik skrattade?*  
 why laughed Eva when Erik laughed  
 Why did Eva laugh when Erik laughed?

b. *Target MP*

- i. *Han smittade <oss> väl <oss> med sitt skratt.*  
 he infected us VÄL us with his laughter  
 He infected us with his laughter.

- ii. *Han smittade* ⟨*henne*⟩ *väl* ⟨*henne*⟩ *med sitt skratt.*  
 he infected her VÄL her with his laughter  
 He infected her with his laughter.
- c. *Target Adverb*
  - i. *Han smittade* ⟨*oss*⟩ *kanske* ⟨*oss*⟩ *med sitt skratt.*  
 he infected us perhaps us with his laughter  
 Perhaps he infected us with his laughter.
  - ii. *Han smittade* ⟨*henne*⟩ *kanske* ⟨*henne*⟩ *med sitt skratt.*  
 he infected her perhaps her with his laughter  
 Perhaps he infected her with his laughter.

(24) a. *Context*

- i. *Varför frågar inte Peter efter din email-adress?*  
 why ask not Peter after your email address.DEF  
 Why doesn't Peter ask for your e-mail address?
- ii. *Varför frågar inte Peter efter Lisas email-adress?*  
 why ask not Peter after Lisa's email address.DEF  
 Why doesn't Peter ask for Lisa's e-mail address?

b. *Target MP*

- i. *Han ringer* ⟨*mig*⟩ *väl* ⟨*mig*⟩ *på mobilen.*  
 he calls me VÄL me on cell phone.DEF  
 He calls me on the cell phone.
- ii. *Han ringer* ⟨*henne*⟩ *väl* ⟨*henne*⟩ *på mobilen.*  
 he calls her VÄL her on cell phone.DEF  
 He calls her on the cell phone.

c. *Target Adverb*

- i. *Han ringer* ⟨*mig*⟩ *säkerligen* ⟨*mig*⟩ *på mobilen.*  
 he calls me surely me on cell phone.DEF  
 Surely, he calls me on the cell phone.
- ii. *Han ringer* ⟨*henne*⟩ *säkerligen* ⟨*henne*⟩ *på mobilen.*  
 he calls her surely her on cell phone.DEF  
 Surely, he calls her on the cell phone.

## A.6. Experiment 6: Mono and bisyllabic object pronouns and *nog/visst*

In the following listing of items, the contexts given in (a): example (i) represents the context which will be followed by a target with an monosyllabic pronoun, (ii) the

context with a bisyllabic pronoun. In the targets in (b), (i) shows the target with a MP and a monosyllabic pronoun, and (ii) the target with a MP and a bisyllabic pronoun. The target in (c) shows the monosyllabic (i) and bisyllabic (ii) target with sentence adverbs, i.e. context (i) appeared with target (b:i) or (c:i), context (ii) with target (b:ii) or (c:ii).

(1) a. *Context*

- i. *Varför tycker du inte om hunden?*  
why find you not about dog.DEF  
Why don't you like the dog?
- ii. *Varför tycker inte pojken om hunden?*  
why find boy not about dog.DEF  
Why doesn't the boy like the dog?

b. *Traget MP*

- i. *Den bet <dig> visst <dig> i armen.*  
it bit me VISST me on arm.DEF  
It bit me in the arm.
- ii. *Den bet <honom> visst <honom> i armen.*  
it bit him VISST him on arm.DEF  
It bit him in the arm.

c. *Target adverb*

- i. *Den bet <dig> tyvärr <dig> i armen.*  
it bit me unfortunately me on arm.DEF  
It did unfortunately bite me in the arm.
- ii. *Den bet <honom> tyvärr <honom> i armen.*  
it bit him unfortunately him on arm.DEF  
It did unfortunately bite him in the arm.

(2) a. *Context*

- i. *Varför kan pappan inte äta lunch med er?*  
why can father.DEF not eat lunch with you  
Why can't the father have lunch with you?
- ii. *Varför kan pappan inte äta lunch med dottern?*  
why can fatherDEF not eat lunch with daughter.DEF  
Why can't the father have lunch with the daughter?

b. *Traget MP*

- i. *Han hämtar <oss> nog <oss> klockan tre.*  
he pick up us NOG us clock three  
He picks us up at three o'clock.

- ii. *Han hämtar ⟨henne⟩ nog ⟨henne⟩ klockan tre.*  
 he pick up us NOG us clock three  
 He picks her up at three o'clock.

c. *Traget Adverb*

- i. *Han hämtar ⟨oss⟩ antagligen ⟨oss⟩ klockan tre.*  
 he pick up us probably us clock three  
 He probably picks us up at three o'clock.
- ii. *Han hämtar ⟨henne⟩ antagligen ⟨henne⟩ klockan tre.*  
 he pick up her probably her clock three  
 He probably picks her up at three o'clock.

(3) a. *Context*

- i. *Varför hälsar tidningsförsäljaren på dig?*  
 why greet newspaperman.DEF on you?  
 Why does the newspaper man greet you?
- ii. *Varför hälsar kvinnan på tidningsförsäljaren?*  
 why greet woman.DEF on newspaperman.DEF?  
 Why does the woman greet the newspaper man?

b. *Traget MP*

- i. *Hon ser ⟨mig⟩ visst ⟨mig⟩ varje dag.*  
 she sees me VISST me every day  
 She sees me every day.
- ii. *Hon ser ⟨honom⟩ visst ⟨honom⟩ varje dag.*  
 she sees him VISST him every day  
 She sees him every day.

c. *Traget Adverb*

- i. *Hon ser ⟨mig⟩ uppenbarligen ⟨mig⟩ varje dag.*  
 she sees me obviously me every day  
 Obviously, she sees me every day.
- ii. *Hon ser ⟨honom⟩ uppenbarligen ⟨honom⟩ varje dag.*  
 she sees him obviously him every day  
 Obviously, she sees him every day.

(4) a. *Context*

- i. *Varför är jobbet som journalist viktigt för era karriärer*  
 why is job.DEF as journalists important for your careers  
*som författare?*  
 as writers  
 Why is the job as journalists important for your careers as writers

- ii. *Varför är jobbet som journalist viktigt för författarens*  
 why is job.DEF as journalists important for writer.DEF.PL  
*karriär?*  
 career

Why is the job as journalists important to the writer's career?

b. *Traget MP*

- i. *Det inspirerar <oss> visst <oss> till spännande berättelser.*  
 it inspires us VISST us to exiting stories  
 It inspires us to write exiting stories.
- ii. *Det inspirerar <henne> visst <henne> till spännande berättelser.*  
 it inspires her VISST her to exiting stories  
 It inspires her to write exiting stories.

c. *Traget Adverb*

- i. *Det inspirerar <oss> självfallet <oss> till spännande berättelser.*  
 it inspires us of course us to exiting stories  
 Of course, it inspires us to write exiting stories.
- ii. *Det inspirerar <henne> självfallet <henne> till spännande berättelser.*  
 it inspires her of course her to exiting stories  
 Of course, it inspires her to write exiting stories.

(5) a. *Context*

- i. *Varför vet Eva så mycket om dig?*  
 why knows Eve so much about you  
 Why does Eve know so much about you?
- ii. *Varför vet Eva så mycket om Per?*  
 why knows Eve so much about Per  
 Why does Eve know so much about Per?

b. *Traget MP*

- i. *Hon förföljer <mig> visst <mig> sedan en vecka.*  
 she stalks me VISST me since one week  
 She has been stalking me for one week.
- ii. *Hon förföljer <honom> visst <honom> sedan en vecka.*  
 she stalks him VISST him since one week  
 She has been stalking him for one week.

c. *Traget Adverb*

- i. *Hon förföljer <mig> troligtvis <mig> sedan en vecka.*  
 she stalking me probably me since one week



She has probably been stalking me for one week.

- ii. *Hon förföljer <honom> troligtvis <honom> sedan en vecka.*  
she stalking him probably him since one week  
She has probably been stalking him for one week.

(6) a. *Context*

- i. *Varför försökte du tysta damen i publiken?*  
why tried you quiet lady.DEF in audience.DEF  
Why did you try to make the lady in the audience quiet?
- ii. *Varför försökte komikern tysta damen i publiken?*  
why tried comic.DEF quiet lady.DEF in audience.DEF  
Why did you try to make the lady in the audience quiet?

b. *Traget MP*

- i. *Hon överröstade <mig> nog <mig> under föreställningen.*  
she was louder than me NOG me during show.DEF  
She was louder than me during the show.
- ii. *Hon överröstade <honom> nog <honom> under föreställningen.*  
she was louder than him NOG him during show.DEF  
She was louder than him during the show.

c. *Traget Adverb*

- i. *Hon överröstade <mig> tydligen <mig> under föreställningen.*  
she was louder than me obviously me during show.DEF  
She was obviously louder than me during the show.
- ii. *Hon överröstade <honom> tydligen <honom> under föreställningen.*  
she was louder than him obviously him during show.DEF  
She was obviously louder than him during the show.

(7) a. *Context*

- i. *Varför ropar ni på Ada när ni går upp ur sjön?*  
why call you on Ada when you go up out of sea.DEF  
Why do you call for Ada when you go out of the sea?
- ii. *Varför ropar Karl på Ada när han går upp ur sjön?*  
why call Karl on Ada when he go up out of sea.DEF  
Why does Karl call for Ada when he goes out of the sea?

b. *Traget MP*

- i. *Hon torkar ⟨oss⟩ nog ⟨oss⟩ efter badet.*  
she dries us NOG us after bath.DEF  
She dries us after the bath.
- ii. *Hon torkar ⟨honom⟩ nog ⟨honom⟩ efter badet.*  
she dries him NOG him after bath.DEF  
She dries him after the bath.

c. *Traget Adverb*

- i. *Hon torkar ⟨oss⟩ förmodligen ⟨oss⟩ efter badet.*  
she dries us probably us after bath.DEF  
She probably dries us after the bath.
- ii. *Hon torkar ⟨honom⟩ förmodligen ⟨honom⟩ efter badet.*  
she dries him probably him after bath.DEF  
She probably dries him after the bath.

(8) a. *Context*

- i. *Varför visste Peter att vi också sett filmen?*  
why knew Peter that we also seen movie.DEF  
Why did Peter know that we also had seen the movie?
- ii. *Varför visste Peter att Anna också sett filmen?*  
why knew Peter that Anna also seen movie.DEF  
Why did Peter know that Anna also had seen the movie?

b. *Traget MP*

- i. *Han träffade ⟨oss⟩ nog ⟨oss⟩ på bion.*  
he met us NOG us on theatre.DEF  
He met us at the theatre.
- ii. *Han träffade ⟨henne⟩ nog ⟨henne⟩ på bion.*  
he met her NOG her on theatre.DEF  
He met her at the theatre.

c. *Traget Adverb*

- i. *Han träffade ⟨oss⟩ faktiskt ⟨oss⟩ på bion.*  
he met us actually us on theatre.DEF  
He actually met us at the theatre.
- ii. *Han träffade ⟨henne⟩ faktiskt ⟨henne⟩ på bion.*  
he met her actually her on theatre.DEF  
He actually met her at the theatre.

(9) a. *Context*

- i. *Varför är du rädd för katten?*  
 why are you afraid of cat.DEF  
 Why are you afraid of the cat?
- ii. *Varför är flickan rädd för katten?*  
 why is girl.DEF afraid of cat.DEF  
 Why is the girl afraid of the cat?

b. *Target MP*

- i. *Den rev  $\langle mig \rangle$  nog  $\langle mig \rangle$  på handen.*  
 it scratched me NOG me on hand.DEF  
 It scratched me on the hand.
- ii. *Den rev  $\langle henne \rangle$  nog  $\langle henne \rangle$  på handen.*  
 it scratched her NOG her on hand.DEF  
 It scratched her on the hand.

c. *Target Adverb*

- i. *Den rev  $\langle mig \rangle$  garanterat  $\langle mig \rangle$  på handen.*  
 it scratched me certainly me on hand.DEF  
 It certainly scratched me on the hand.
- ii. *Den rev  $\langle henne \rangle$  garanterat  $\langle henne \rangle$  på handen.*  
 it scratched her certainly her on hand.DEF  
 It certainly scratched her on the hand.

(10) a. *Context*

- i. *Varför tackade ni Maria?*  
 why thanked you Maria  
 Why did you thank Maria?
- ii. *Varför tackade Johan Maria?*  
 why thanked Johan Maria  
 Why did Johan thank Maria?

b. *Target MP*

- i. *Hon nämnde  $\langle oss \rangle$  visst  $\langle oss \rangle$  i tacktalet.*  
 she mentioned us VISST us in acceptance speech.DEF  
 She mentioned us in the acceptance speech.
- ii. *Hon nämnde  $\langle honom \rangle$  visst  $\langle honom \rangle$  i tacktalet.*  
 she mentioned him VISST him in acceptance speech.DEF

She mentioned him in the acceptance speech.

c. *Target Adverb*

- i. *Hon nämnde*  $\langle oss \rangle$  *naturligtvis*  $\langle oss \rangle$  *i tacktalet.*  
she mentioned us of course us in acceptance speech.DEF  
Of course she mentioned us in the acceptance speech.
- ii. *Hon nämnde*  $\langle honom \rangle$  *naturligtvis*  $\langle honom \rangle$  *i tacktalet.*  
she mentioned him of course him in acceptance speech.DEF  
Of course she mentioned him in the acceptance speech.

(11) a. *Context*

- i. *Varför springer ni ifrån Ulf ?*  
why run you from Ulf  
Why are you running from Ulf?
- ii. *Varför springer Karin ifrån Ulf ?*  
why run Karin from Ulf  
Why is Karin running from Ulf?

b. *Target MP*

- i. *Han jagar*  $\langle oss \rangle$  *visst*  $\langle oss \rangle$  *med tennisraketet.*  
he hunts us VISST us with racket.DEF  
He hunts us with the tennis racket.
- ii. *Han jagar*  $\langle henne \rangle$  *visst*  $\langle henne \rangle$  *med tennisraketet.*  
he hunts her VISST her with racket.DEF  
He hunts her with the tennis racket.

c. *Target Adverb*

- i. *Han jagar*  $\langle oss \rangle$  *troligen*  $\langle oss \rangle$  *med tennisraketet.*  
he hunts us probably us with racket.DEF  
He probably hunts us with the tennis racket.
- ii. *Han jagar*  $\langle henne \rangle$  *troligen*  $\langle henne \rangle$  *med tennisraketet.*  
he hunts her probably her with racket.DEF  
He probably hunts her with the tennis racket.

(12) a. *Context*

- i. *Varför fick Mark skäll av dig?*  
why received Mark reprimand by you  
Why did Mark receive reprimand from you?
- ii. *Varför fick Mark skäll av Johanna?*  
why received Mark reprimand by Johanna  
Why did Mark receive reprimand from Johanna?

b. *Target MP*

- i. *Han sparkade < mig > visst < mig > på benet.*  
he kicked me VISST me on leg.DEF  
He kicked me on the leg.
- ii. *Han sparkade < henne > visst < henne > på benet.*  
he kicked me VISST me on leg.DEF  
He kicked me on the leg.

c. *Target Adverb*

- i. *Han sparkade < mig > bevisligen < mig > på benet.*  
he kicked me obviously me on leg.DEF  
He undeniably kicked me on the leg.
- ii. *Han sparkade < henne > bevisligen < henne > på benet.*  
he kicked me obviously me on leg.DEF  
He undeniably kicked me on the leg.

(13) a. *Context*

- i. *Varför sjunger Karin för dig?*  
why sings Karin for you  
Why does Karin sing for you?
- ii. *Varför sjunger Karin för Pelle?*  
why sings Karin for Pelle  
Why does Karin sing for Pelle?

b. *Target MP*

- i. *Hon uppvaktar < mig > visst < mig > på födelsedagen.*  
she congratulates me VISST me on birthday.DEF  
She congratulates me on my birthday.
- ii. *Hon uppvaktar < honom > visst < honom > på födelsedagen.*  
she congratulates him VISST him on birthday.DEF  
She congratulates him on his birthday.

c. *Target Adverb*

- i. *Hon uppvaktar < mig > förstås < mig > på födelsedagen.*  
she congratulates me of course me on birthday.DEF  
She congratulates me on my birthday.
- ii. *Hon uppvaktar < honom > förstås < honom > på födelsedagen.*  
she congratulates him of course him on birthday.DEF  
She congratulates him on his birthday.

(14) a. *Context*

- i. *Varför vinkade dommaren åt ditt håll?*  
why waved judge at your direction  
Why did the judge wave in your direction?

- ii. *Varför vinkade dommaren åt flickan?*  
 why waved judge at girl.DEF  
 Why did the judge wave in the direction of the girl?

b. *Target MP*

- i. *Han varnade ⟨mig⟩ nog ⟨mig⟩ efter tacklingen.*  
 he warned me NOG me after tackle.DEF  
 He warned me after the tackle.
- ii. *Han varnade ⟨henne⟩ nog ⟨henne⟩ efter tacklingen.*  
 he warned her NOG her after tackle.DEF  
 He warned her after the tackle.

c. *Target Adverb*

- i. *Han varnade ⟨mig⟩ möjligtvis ⟨mig⟩ efter tacklingen.*  
 he warned me possibly me after tackle.DEF  
 He possibly warned me after the tackle.
- ii. *Han varnade ⟨henne⟩ möjligtvis ⟨henne⟩ efter tacklingen.*  
 he warned her possibly her after tackle.DEF  
 He possibly warned her after the tackle.

(15) a. *Context*

- i. *Varför var ni sura på Katrin?*  
 why were you mad at Katrin  
 Why were you mad at Katrin?
- ii. *Varför var Filip sur på Katrin?*  
 why was Filip mad at Katrin  
 Why was Filip mad at Katrin?

b. *Target MP*

- i. *Hon vilseledde ⟨oss⟩ visst ⟨oss⟩ med lögner.*  
 she deceived us VISST us with lies  
 She deceived us with lies.
- ii. *Hon vilseledde ⟨honom⟩ visst ⟨honom⟩ med lögner.*  
 she deceived him VISST him with lies  
 She deceived him with lies.

c. *Target Adverb*

- i. *Hon vilseledde ⟨oss⟩ onekligen ⟨oss⟩ med lögner.*  
 she deceived us without a doubt us with lies  
 Without a doubt, she deceived us with lies.
- ii. *Hon vilseledde ⟨honom⟩ onekligen ⟨honom⟩ med lögner.*  
 she deceived him without a doubt him with lies  
 Without a doubt, she deceived us with lies.

(16) a. *Context*

- i. *Varför var ni så otrevliga mot hyresvärden?*  
 why were you so impolite against land lord.DEF  
 Why were you so impolite to the land lord?
- ii. *Varför var kvinnan så otrevlig mot hyresvärden?*  
 why was woman.DEF so impolite against land lord.DEF  
 Why was the woman so impolite to the land lord?

b. *Target MP*

- i. *Han vräkte ⟨oss⟩ nog ⟨oss⟩ från hyreslägenheten.*  
 he evicted us NOG us from apartment.DEF  
 He evicted us from the apartment
- ii. *Han vräkte ⟨henne⟩ nog ⟨henne⟩ från hyreslägenheten.*  
 he evicted her NOG her from apartment.DEF  
 He evicted her from the apartment

c. *Target Adverb*

- i. *Han vräkte ⟨oss⟩ sannolikt ⟨oss⟩ från hyreslägenheten.*  
 he evicted us probably us from apartment.DEF  
 He probably evicted us from the apartment
- ii. *Han vräkte ⟨henne⟩ sannolikt ⟨henne⟩ från hyreslägenheten.*  
 he evicted her probably her from apartment.DEF  
 He probably evicted her from the apartment

(17) a. *Context*

- i. *Varför polisanmäler du grannfrun?*  
 why report to police you neighbour lady.DEF  
 Why did you report the neighbour to the police?
- ii. *Varför polisanmäler mannen grannfrun?*  
 why report to police man.DEF neighbour lady.DEF  
 Why did the man report the neighbour to the police?

b. *Target MP*

- i. *Hon hotade ⟨mig⟩ nog ⟨mig⟩ med en pistol.*  
 she threatened me NOG me with a gun  
 She threatened me with a gun.
- ii. *Hon hotade ⟨honom⟩ nog ⟨honom⟩ med en pistol.*  
 she threatened him NOG him with a gun  
 She threatened him with a gun.

c. *Target Adverb*

- i. *Hon hotade*      *⟨mig⟩ verkligen ⟨mig⟩ med en pistol.*  
she threatened me    really    me    with a gun  
She really threatened me with a gun.
- ii. *Hon hotade*      *⟨honom⟩ verkligen ⟨honom⟩ med en pistol.*  
she threatened him    really    him    with a gun  
She really threatened him with a gun.

(18) a. *Context*

- i. *Varför får pojken skäll av dig?*  
why    receive boy.DEF reprimand by you  
Why does the boy receive reprimand by you?
- ii. *Varför får pojken skäll av mamman?*  
why    receive boy.DEF reprimand by mother.DEF  
Why does the boy receive reprimand by the mother?

b. *Target MP*

- i. *Han stör ⟨mig⟩ visst ⟨mig⟩ med sina frågor.*  
he    bothers me    VISST me    with his    questions  
He bothers me with his questions.
- ii. *Han stör ⟨henne⟩ visst ⟨henne⟩ med sina frågor.*  
he    bothers her    VISST her    with his    questions  
He bothers her with his questions.

c. *Target Adverb*

- i. *Han stör ⟨mig⟩ givetvis ⟨mig⟩ med sina frågor.*  
he    bothers me    of course me    with his    questions  
Of course, he bothers me with his questions.
- ii. *Han stör ⟨henne⟩ givetvis ⟨henne⟩ med sina frågor.*  
he    bothers her    of course her    with his    questions  
Of course, he bothers her with his questions.

(19) a. *Context*

- i. *Varför får du inte vara i köket när Anna lagar mat?*  
why    allowed you not be    in kitchen.DEF when Anna cooks  
food?  
Why are you not allowed in the kitchen when Anna is preparing food?
- ii. *Varför får Tom inte vara i köket när Anna lagar mat?*  
why    allowed Tom not be    in kitchen.DEF when Anna cooks  
food?



Why is Tome not allowed in the kitchen when Anna is preparing food?

b. *Target MP*

- i. *Hon överraskar <mig> nog <mig> med efterrätt.*  
she surprise me NOG me with dessert  
She might surprise me with dessert.
- ii. *Hon överraskar <honom> nog <honom> med efterrätt.*  
she surprise him NOG him with dessert  
She might surprise him with dessert.

c. *Target Adverb*

- i. *Hon överraskar <mig> kanske <mig> med efterrätt.*  
she surprise me maybe me with dessert  
Maybe she will surprise me with dessert.
- ii. *Hon överraskar <honom> kanske <honom> med efterrätt.*  
she surprise him maybe him with dessert  
Maybe she will surprise him with dessert.

(20) a. *Context*

- i. *Varför talar Margareta i så brysk ton med er?*  
why speaks Margareta in such harsh tone with you  
Why does Margareta speak in such a harsh tone with you?
- ii. *Varför talar Margareta i så brysk ton med Jonas?*  
why speaks Margareta in such harsh tone with Jonas  
Why does Margareta speak in such a harsh tone with Jonas?

b. *Target MP*

- i. *Hon tillrättavisar <oss> nog <oss> efter buset.*  
she reprimands us NOG us after trick.DEF  
She reprimands us after the trick.
- ii. *Hon tillrättavisar <honom> nog <honom> efter buset.*  
she reprimands him NOG him after trick.DEF  
She reprimands him after the trick.

c. *Target Adverb*

- i. *Hon tillrättavisar <oss> möjligtvis <oss> efter buset.*  
she reprimands us possibly us after trick.DEF  
It is possible that she reprimands us after the trick.
- ii. *Hon tillrättavisar <honom> möjligtvis <honom> efter buset.*  
she reprimands him possibly him after trick.DEF  
It is possible that she reprimands him after the trick.

(21) a. *Context*

- i. *Varför visste Lars att ni inte är i skolan?*  
 why knew Lars that you not are in school.DEF  
 Why did Lars know that you weren't at school?
- ii. *Varför visste Lars att Lisa inte är i skolan?*  
 why knew Lars that Lisa not are in school.DEF  
 Why did Lars know that Lisa wasn't at school?

b. *Target MP*

- i. *Han mötte ⟨oss⟩ visst ⟨oss⟩ på stan.*  
 he met us VISST us on town.DEF  
 He met us in town.
- ii. *Han mötte ⟨henne⟩ visst ⟨henne⟩ på stan.*  
 he met her VISST her on town.DEF  
 He met her in town.

c. *Target Adverb*

- i. *Han mötte ⟨oss⟩ säkerligen ⟨oss⟩ på stan.*  
 he met us surely us on town.DEF  
 Surely, he met us in town.
- ii. *Han mötte ⟨henne⟩ säkerligen ⟨henne⟩ på stan.*  
 he met her surely her on town.DEF  
 Surely, he met her in town.

(22) a. *Context*

- i. *Varför träffar ni läraren efter skolan?*  
 why meet you teacher.DEF after school.DEF  
 Why do you meet the teacher after school?
- ii. *Varför träffar eleven läraren efter skolan?*  
 why meet pupil.DEF teacher.DEF after school.DEF  
 Why does the pupil meet the teacher after school?

b. *Target MP*

- i. *Läraren hjälper ⟨oss⟩ nog ⟨oss⟩ med läxorna.*  
 teacher.DEF helps us NOG us with home work.DEF  
 The teacher helps us with the home work.
- ii. *Läraren hjälper ⟨honom⟩ nog ⟨honom⟩ med läxorna.*  
 teacher.DEF helps him NOG him with home work.DEF  
 The teacher helps him with the home work.

c. *Target Adverb*

- i. *Läraren hjälper ⟨oss⟩ förhoppningsvis ⟨oss⟩ med*  
teacher.DEF helps us hopefully us with  
*läxorna.*  
home work.DEF  
The teacher hopefully helps us with the home work.
- ii. *Läraren hjälper ⟨honom⟩ förhoppningsvis ⟨honom⟩ med*  
teacher.DEF helps him hopefully him with  
*läxorna.*  
home work.DEF  
The teacher hopefully helps him with the home work.

(23) a. *Context*

- i. *Varför fnissade ni när Erik skrattade?*  
why laughed you when Erik laughed  
Why did you laugh when Erik laughed?
- ii. *Varför fnissade Eva när Erik skrattade?*  
why laughed Eva when Erik laughed  
Why did Eva laugh when Erik laughed?

b. *Target MP*

- i. *Han smittade ⟨oss⟩ visst ⟨oss⟩ med sitt skratt.*  
he infected us VISST us with his laughter  
He infected us with his laughter.
- ii. *Han smittade ⟨henne⟩ visst ⟨henne⟩ med sitt skratt.*  
he infected her VISST her with his laughter  
He infected her with his laughter.

c. *Target Adverb*

- i. *Han smittade ⟨oss⟩ självklart ⟨oss⟩ med sitt skratt.*  
he infected us of course us with his laughter  
Of course, he infected us with his laughter.
- ii. *Han smittade ⟨henne⟩ självklart ⟨henne⟩ med sitt skratt.*  
he infected her of course her with his laughter  
Of course, he infected her with his laughter.

(24) a. *Context*

- i. *Varför frågar inte Peter efter din email-adress?*  
why ask not Peter after your email address.DEF  
Why doesn't Peter ask for your e-mail address?
- ii. *Varför frågar inte Peter efter Lisas email-adress?*  
why ask not Peter after Lisa's email address.DEF  
Why doesn't Peter ask for Lisa's e-mail address?

b. *Target MP*

- i. *Han ringer <mig> nog <mig> på mobilen.*  
he calls me NOG me on cell phone.DEF  
He calls me on the cell phone.
- ii. *Han ringer <henne> nog <henne> på mobilen.*  
he calls her NOG her on cell phone.DEF  
He calls her on the cell phone.

c. *Target Adverb*

- i. *Han ringer <mig> säkert <mig> på mobilen.*  
he calls me surely me on cell phone.DEF  
Surely, he calls me on the cell phone.
- ii. *Han ringer <henne> säkert <henne> på mobilen.*  
he calls her surely her on cell phone.DEF  
Surely, he calls her on the cell phone.

## A.7. Filler and control questions

### Fillers experiment 3 and 4

(1) a. *Context*

- i. *Peter går gärna på teater.*  
Peter goes gladly on theatre  
Peter enjoys going to the theatre.

b. *Target*

- i. *Imorgon ska han se Hamlet.*  
tomorrow shall he see Hamlet  
Tomorrow he will watch Hamlet.
- ii. *Han ska se Hamlet imorgon.*  
he shall see Hamlet tomorrow  
He will watch Hamlet tomorrow.

(2) a. *Context*

- i. *Lisa lagar gärna mat för sina vänner.*  
Lisa cooks gladly food for her friends.  
Lisa likes to cook food for her friends.

b. *Target*

- i. *I kväll ska hon göra en lasagne.*  
tonight shall she make a lasagne

- ii. *Hon ska göra en lasagne i kväll.*  
she shall make a lasagne tonight  
She will make a lasagne tonight.
- (3) a. *Context*
- i. *Pia är känd för sina goda tårter och bakar ofta något gott när hennes vänner fyller år.*  
Pia is famous for her good cakes and bakes often something good when her friends fill years.  
Pia is famous for her delicious cakes and often bakes something tasty when her friends have birthday.
- b. *Target*
- i. *I helgen ska hon baka en jordgubbstårta.*  
In weekend shall she bake a strawberry cake
- ii. *Hon ska baka en jordgubbstårta i helgen.*  
she shall bake a strawberry cake in weekend  
She will bake a strawberry cake this week end.
- (4) a. *Context*
- i. *Anna och Fredrik är på semester i Göteborg i en vecka.*  
Anna and Fredrik are on holiday in Göteborg in one week  
Anna and Fredrik are on holiday in Göteborg for one week.
- b. *Target*
- i. *På fredag ska de besöka sjöfartsmuseet.*  
On Friday shall they visit see fare museum.DEF
- ii. *De ska besöka sjöfartsmuseet på fredag.*  
they shall visit see fare museum.DEF on Friday  
They will visit the nautical museum on Friday.
- (5) a. *Context*
- i. *Sara håller sig gärna uppdaterad om vad som händer i världen.*  
Sara keeps REFLX gladly up to date about what happens in world.DEF  
Sara likes to keep herself up to date on the events of the world.
- b. *Target*
- i. *Varje morgon måste hon titta på nyheterna.*  
each morning must she watch on news.DEF
- ii. *Hon måste titta på nyheterna varje morgon.*  
she must watch on news.DEF each morning

She must watch the news each morning.

(6) a. *Context*

- i. *Petra och Johanna jobbar på ett labb och genomför olika experiment.*  
 Petra and Johanna work on a laboratory and conduct various experiments.  
 Petra and Johanna work in a laboratory and conduct various experiments.

b. *Target*

- i. *Efter varje försöksrunda måste de skriva ner resultaten i en loggbok.*  
 after each run of an experiment must they write down results.DEF in a note book
- ii. *De måste skriva ner resultaten i en loggbok efter varje försöksrunda.*  
 they must write down results.DEF in a note book after each run of an experiment  
 After each run of an experiment they must write down the results in a note book.

(7) a. *Context*

- i. *Klara och Johan forskar på hur ett högt intag av vitt socker påverkar koncentrationen. De har redan gjort ett experiment med vuxna deltagare.*  
 Klara and John research on how a high intake of white sugar affects ability to focus they have already done one experiment with grown participants  
 Klara and John do research on how a high intake of white sugar affects the ability to concentrate. They have already done one experiment with grown up participants.

b. *Target*

- i. *I nästa steg ska de undersöka effekten av socker på barn.*  
 in next step shall they study effect.DEF of sugar on children
- ii. *De ska undersöka effekten av socker på barn i nästa steg.*  
 in next step shall they study effect.DEF of sugar on children  
 They shall study the effect of sugar on children in the next step.

(8) a. *Context*

- i. *Mikael och Annika har just köpt ett nytt hus och planerar  
Mikael and Annika have just bought a new house and plan  
renoveringsarbetet.  
reconstruction work.DEF  
Mikael and Annika have just bought a new house and are planning  
the reconstructions.*

b. *Target*

- i. *Nästa vecka måste de måla om husfasaden.  
next week must they paint over facade.DEF*
- ii. *De måste måla om husfasaden nästa vecka.  
they must paint over facade.DEF next week  
They must repaint the facade next week.*

(9) a. *Context*

- i. *Pelle går i skolan i England och har växt mycket under  
Pelle goes in school in England and has grown much during  
sommarlovet.  
summer break.DEF  
Pelle attends school in England and has grown a lot during the  
summer break.*

b. *Target*

- i. *Innan terminsstarten måste han köpa en ny skoluniform.  
before semester start.DEF must he buy a new school uniform*
- ii. *Han måste köpa en ny skoluniform innan terminsstarten.  
he must buy a new school uniform before semester start.DEF  
He must buy a new uniform before the semester starts.*

(10) a. *Context*

- i. *Familjen Svensson brukar åka till Ica två gånger i veckan.  
Family Svensson usually go to Ica two times in week.DEF  
The Svensson family usually goes to Ica two times a week.*

b. *Target*

- i. *Inför helgen måste de handla extra mycket mat.  
before weekend.DEF must they shop extra much food*
- ii. *De måste handla extra mycket mat inför helgen.  
they must shop extra much food before weekend.DEF  
They must buy extra food before the weekend.*

(11) a. *Context*

- i. *Karl har tänkt att fira sin födelsedag i sin stuga i fjällen. Han har bjudit in hela släkten.*  
 Karl has thought to celebrate his birthday in POSS hut in mountains.DEF he has invited in whole family.DEF  
 Karl plans to celebrate his birthday in his hut in the mountains. He has invited the whole family.

b. *Target*

- i. *Innan släktkalaset måste han storstäda hela huset.*  
 before family gathering.DEF must he clean whole house.DEF
- ii. *Han måste storstäda hela huset innan*  
 he must clean whole house.DEF before  
*släktkalaset.*  
 family gathering.DEF  
 He must clean the entire house before the family gathering.

(12) a. *Context*

- i. *Gunnar och hans grannar har röjt i sina trädgårdar och beskurit många stora träd.*  
 Gunnar and his neighbours have tidied in their gardens and cut many big trees.  
 Gunnar and his neighbours have tidied their gardens and cut many big trees.

b. *Target*

- i. *På Valborg ska de elda upp allt trädgårdsavfall.*  
 on last of April shall they fire up all garden garbage
- ii. *De ska elda upp allt trädgårdsavfall på Valborg.*  
 they shall fire up all garden garbage on last of April  
 They will burn the garden garbage on the last of April.

(13) a. *Context*

- i. *Karin missade många föreläsningar denna terminen.*  
 Karin missed many lectures this semester.DEF  
 Karin missed many lectures this semester.

b. *Target*

- i. *Innan tentan måste hon gå igenom hela kurslitteraturen på egen hand.*  
 before exam.DEF must she go through whole course literature on own hand.



- ii. *Hon måste gå igenom hela kurslitteraturen på egen hand*  
she must go through whole course literature on own hand  
*innan tentan.*  
before exam.DEF  
She must review the entire course literature on her own before the exam.

(14) a. *Context*

- i. *Anita brukar alltid ge bort hemmagjorda presenter till*  
Anita usually always give away home made gifts to  
*familjen och sina vänner.*  
family.DEF and POSS friends  
Anita usually always give home made gifts to the family and to her friends.

b. *Target*

- i. *Innan jul ska hon sticka flera par vantar och*  
before Christmas shall she knit many pairs mittens and  
*mössor.*  
hats  
ii. *Hon ska sticka flera par vantar och mössor innan*  
she shall knit many pairs mittens and hats before  
*jul.*  
Christmas  
She will knit many pairs of mittens and hats before Christmas.

(15) a. *Context*

- i. *Klas har köpt en ny spis som han tänkt installera själv*  
Klas has bought a new stove REL he thought install himself  
*fast än han inte är så kunnig.*  
even though he not is very able  
Klas has bought a new stove and planned to install it himself even though he does not know how.

b. *Target*

- i. *Innan installationen måste han läsa instruktionerna*  
before installation.DEF must he read instructions.DEF  
*noga.*  
thoroughly  
ii. *Han måste läsa instruktionerna nogga innan*  
he must read instructions.DEF thoroughly before  
*installationen.*  
installation.DEF

He must read the instructions carefully before the installation.

(16) a. *Context*

- i. *Bengt och Klara driver en ekologisk bondgård och provar gärna nya grödor.*  
Bengt and Klara run a ecological farm and tests gladly  
new crops  
Bengt and Klara run a ecological farm and like to test new crops.

b. *Target*

- i. *I år ska de odla en ny typ av chilli i växthuset.*  
in year shall they grow a new kind of pepper in green house.DEF
- ii. *De ska odla en ny typ av chilli i växthuset i år.*  
they shall grow a new kind of pepper in green house.DEF in year

They will grow a new kind of pepper in the green house this year.

(17) a. *Context*

- i. *Håkan planerar att göra om lite i trädgården.*  
Håkan plans to do about a bit in garden.DEF  
Håkan plans to redo the garden a bit.

b. *Target*

- i. *När snön smält ska han plantera ut tulpaner i rabatterna.*  
when snow.DEF melted shall he plant out tulips in  
flower beds.DEF
- ii. *Han ska plantera ut tulpaner i rabatterna när snön smält.*  
he shall plant out tulips in flower beds.DEF when  
snow.DEF melted  
When the snow has melted he will plant tulips in the flower beds.

(18) a. *Context*

- i. *Björn och Stina brukar styrketräna tillsammans. Deras mål är att få så stora muskler som möjligt.*  
Björn and Stina usually work out together their goal is  
to get as big muscles as possible  
Björn and Stina usually work out together. it is their goal to get as  
big muscles as possible.

b. *Target*

- i. *Efter träningspassen måste de äta proteinrik mat.*  
after workout units.DEF must they eat protein rich food
- ii. *De måste äta proteinrik mat efter träningspassen.*  
they must eat protein rich food after workout units.DEF  
They must eat food rich with protein after the workout units

(19) a. *Context*

- i. *Klas och Jan jobbar som kockar i ett soppkök och håller på att planera veckans matsedel.*  
Klas och Jan work as chefs in a soup kitchen and holds on to plan week.POSS menu  
Klas och Jan work as chefs in a soup kitchen and are planning the menu of the week.

b. *Target*

- i. *På torsdag ska de laga ärtsoppa.*  
on Thursday shall they cook pea soup
- ii. *De ska laga ärtsoppa på torsdag.*  
they shall cook pea soup on Thursday  
The will cook pea soup on Thursday.

(20) a. *Context*

- i. *Hans ska delta i ett lådbilsrace men hans låbil har tappat ett hjul.*  
Hans shall participate in a toy car race but his car has lost a wheel.  
Hans will participate in a toy car race today but his car has lost a wheel.

b. *Target*

- i. *Innan racet måste han reparera sin lådbil.*  
before race.DEF must he repair his toy car
- ii. *Han måste reparera sin lådbil innan racet.*  
he must repair his toy car before race.DEF  
Before the race he must repair his toy car.

(21) a. *Context*

- i. *Maria har bokat en resa till Thailand över jul och håller på att göra en lista på saker hon måste göra innan hon*  
Maria has booked a trip to Thailand over Christmas and holds on to do a list on things she must do before she

*åker.*

leaves

Maria has booked a trip to Thailand over Christmas is doing a list of things she must do before she leaves.

b. *Target*

i. *Innan semestern måste hon beställa ett nytt pass.*

before holiday.DEF must she order a new passport

ii. *Hon måste beställa ett nytt pass innan semestern.*

she must order a new passport before holiday.DEF

She must order a new passport before the holiday.

(22) a. *Context*

i. *Mårten ska delta i en orienteringstävling och tänker*

Mårten shall participate in a competition and plans

*springa den stora rundan.*

run the big leg

Mårten will participate in a competition and plans to run the long leg.

b. *Target*

i. *Under loppet måste han samla minst tio stämplor.*

during race.DEF must he gather at least ten stamps

ii. *Han måste samla minst tio stämplor under loppet.*

he must gather at least ten stamps during race.DEF

During the race he must collect at least ten stamps.

(23) a. *Context*

i. *Lena veckopendlar till jobbet med flyg. Ibland kan det*

Lena week commutes to work.DEF with plane sometimes can it

*vara svårt att få tag på billiga biljetter.*

be difficult to get on cheap tickets

Lena commutes to work each week by air plane. Sometimes it is difficult to get a hold of cheap tickets.

b. *Target*

i. *Inför storhelger måste hon boka biljetter flera veckor i*

before big weekends must she book tickets many weeks in

*förväg.*

advance

ii. *Hon måste boka biljetter flera veckor i förväg inför*

she must book tickets many weeks in advance before

*storhelger.*

big weekends

She must book tickets many weeks in advance before big holidays.

(24) a. *Context*

- i. *Jonas gillar att umgås med sin morfar. De hittar*  
Jonas likes to spend time with his grandfather they find  
*alltid på så roliga saker tillsammans.*  
always such funny things together.  
Jonas likes to spend time with his grandfather. They always do such  
fun things together.

b. *Target*

- i. *På sommarlovet ska de bygga en trädkoja.*  
on summer holiday.DEF shall they build a wooden hut  
ii. *De ska bygga en trädkoja på sommarlovet.*  
They shall build a wooden hut on summer holiday.DEF  
They will build a wooden hut during the summer holidays.

(25) a. *Context*

- i. *Ola och Monica är på semester vid havet med sina tre*  
Ola and Monica are on holiday by sea.DEF with POSS three  
*barn. De försöker hitta aktiviteter som är roliga för alla i*  
children they try find activities REL are fun for all in  
*familjen.*  
family.DEF  
Ola and Monica are on holiday by the sea with their three children.  
They try to find activities that all of the family can enjoy.

b. *Target*

- i. *Imorgon ska de gå på skattjakt.*  
tomorrow shall they go on treasure hunt  
ii. *De ska gå på skattjakt i morgon.*  
they shall go on treasure hunt tomorrow  
They will go on a treasure hunt tomorrow.

(26) a. *Context*

- i. *Gunnel och Folke tycker om att vara ute i naturen när*  
Gunnel and Folke fond of to be out in nature.DEF when  
*de är lediga.*  
they are free  
Gunnel and Folke like to be out in nature when they have time off.

b. *Target*

- i. *I helgen ska de plocka svamp i skogen.*  
in weekend shall they pick mushrooms in woods.DEF
- ii. *De ska plocka svamp i skogen i helgen.*  
they shall pick mushrooms in woods.DEF in weekend  
This weekend they will pick mushrooms in the woods.

(27) a. *Context*

- i. *Lina och Mattias tycker om att vara vid havet på somrarna. Det finns så mycket att göra.*  
Lina and Mattias fond of to be by sea.DEF on  
summers.DEF it exists so much to do  
Lina and Mattias like to be by the sea in the summer time. There is so much to do.

b. *Target*

- i. *I kväll ska de fiska krabbor från bryggan.*  
in tonight shall they fish crabs from dock.DEF
- ii. *De ska fiska krabbor från bryggan i kväll.*  
they shall fish crabs from dock.DEF in tonight  
They will fish crabs by the dock tonight.

(28) a. *Context*

- i. *Bo brukar ta med sig sin hund till jobbet.*  
Bo usually takes with REFLX POSS dog to work.DEF  
Bo usually brings his dog to work.

b. *Target*

- i. *På lunchrasterna måste han rasta hunden på parkeringsplatsen.*  
in lunch breaks.DEF must he walk dog.DEF on  
parking lot.DEF
- ii. *Han måste rasta hunden på parkeringsplatsen på lunchrasterna.*  
he must walk dog.DEF on parking lot.DEF in  
lunch breaks.DEF  
He must walk the dog on the parking lot during the lunch breaks.

## Control questions

(1) a. *Context*

- i. *Peter klappar den bruna hunden.*  
Peter pets the brown dog.DEF

Peter pets the brown dog.

b. *Target*

- i. *Hunden som Peter klappar är brun.*  
dog.DEF REL Peter pets is brown.  
The dog which Peter pets is brown.
- ii. *Hunden som Peter klappar är svart.*  
dog.DEF REL Peter pets is black.  
The dog which Peter pets is black.

(2) a. *Context*

- i. *Anna tycker att teet smakar gott.*  
Anna finds that tea.DEF tastes good  
Anna likes the tea.

b. *Target*

- i. *Hon dricker te.*  
she drinks tea  
She is drinking tea.
- ii. *Hon dricker kaffe.*  
she drinks coffee  
She is drinking coffee.

(3) a. *Context*

- i. *Lisa glädjer sig över att solen skiner.*  
Lisa happy REFL over that sun.DEF shines  
Lisa is happy that the sun shines.

b. *Target*

- i. *Solen skiner.*  
sun.DEF shines  
The sun is shining.
- ii. *Det regnar.*  
It rains  
It is raining.

(4) a. *Context*

- i. *Sara vet att Petra är hemma.*  
Sara knows that Petra is home  
Sara knows that Petra is at home.

b. *Target*

i. *Petra är hemma.*  
 Petra is home  
 Petra is at home

ii. *Petra är bortrest.*  
 Petra is gone  
 Petra is gone.

(5) a. *Context*

i. *Lars kommer inte på besök förrän klockan tre.*  
 Lars comes not on visit before o'clock three  
 Lars will not come before three o'clock.

b. *Target*

i. *Klockan är inte tre än.*  
 clock.DEF is not three yet  
 It is not yet three o'clock.

ii. *Klockan är efter tre.*  
 clock.DEF is after three  
 It is past three o'clock.

(6) a. *Context*

i. *Johan träffade Peter igår.*  
 John met Peter yesterday  
 John met Peter yesterday.

b. *Target*

i. *Peter träffade Johan igår.*  
 Peter met John yesterday  
 Peter met John yesterday

ii. *Peter träffade inte Johan igår.*  
 Peter met not John yesterday  
 Peter didn't met John yesterday

(7) a. *Context*

i. *Linus tror att det var påskharen som gömde*  
 Linus believes that it was Easter bunny.DEF REL hid  
*påskägg i trädgården, men det var mamman som gjorde*  
 easter eggs in garden.DEF but it was mother.DEF REL did  
*det.*  
 it  
 Linus believes that the Easter bunny hid easter eggs in the garden,  
 but it was the mother who did it.



b. *Target*

- i. *Det var inte påskharen som gömde äggen i*  
it was not Easter bunny.DEF REL hid easter eggs.DEF in  
*trädgården.*  
garden.DEF  
It was not the Easter bunny who hid the Easter eggs in the garden.
- ii. *Det var påskharen som gömde äggen i*  
it was Easter bunny.DEF REL hid easter eggs.DEF in  
*trädgården.*  
garden.DEF  
It was the Easter bunny who hid the Easter eggs in the garden.

## A.8. List of abbreviations

def	definite marker
fem	feminine
indef	indefinite
MP	modal particle
masc	masculine
neut	neuter
obj	object
p	person
pass	passive
pl	plural
poss	possessive marker/pronoun
reflx	reflexive pronoun
rel	relative pronoun
sing	singular
subj	subject
utr	utrum (common gender)
VF	Verum-focus